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Annual Report
of the
Department of Health
of
# The City of New York
for the
Year 1917

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ANNUAL REPORT

OF THE

DEPARTMENT OF HEALTH

OF

THE CITY OF NEW YORK

FOR THE

CALENDAR YEAR 1917

Public health is purchasable. Within natural limitations
a community can determine its own death rate

SUMMARY OF VITAL STATISTICS FOR 1917—
NEW YORK CITY.

	Manhattan.	Bronx.	Brooklyn.	Queens.	Richmond.	New York.
Area of City, Acres	14,038	26,523	45,327	69,100	36,600	191,588
Square Miles of Territory	21.93	41.44	70.82	107.96	57.19	299,34
Population*	2,682,977	599,216	1,975,801	379,696	99,802	5,737,492
Births Reported	61,612	16,902	50,468	10,050	2,532	141,564†
Birth Rate	22.97	28.21	25.55	26.47	25.37	24.67
Deaths Reported	36,947	8,489	25,338	5,614	2,187	78,575
Death Rate	13.77	14.17	12.82	14.79	21.91	13.70
Infantile Mortality	5,789	1,342	4,286	920	231	12,568
Infantile Mortality Rate‡	94.0	79.4	84.9	91.5	91.2	88.8
Infectious Diseases§	1,754	324	1,052	235	47	3,412
Tuberculosis (Pulmonary)	4,218	1,042	2,813	577	175	8,825
Death Rate	1.57	1.74	1.42	1.52	1.75	1.54

* Estimated, July 1.

† By Physicians, 94,039 (66.4%); by Midwives, 47,525 (36.6%).

‡ Death Rate under 1 year per 1,000 Births reported.

§ "Acute Infectious Diseases" include Typhoid Fever, Scarlet Fever, Measles, Diphtheria, Whooping Cough, Influenza, Smallpox and Cerebro-spinal Meningitis.

25-5007-18-B

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New York, August 31, 1918.

To His Honor
The Mayor of the City of New York.

Sir: On behalf of the Board of Health, I have the honor to transmit herewith, as required by Section 1168 of the Charter of the City of New York, a report of all the operations of the Department of Health of the City of New York, for the year ending December 31, 1917.

Very respectfully,
ROYAL S. COPELAND, M. D.,
Commissioner of Health.

DIRECTORY OF DEPARTMENT OF HEALTH.

OFFICES.

Headquarters: S. W. corner Centre and Walker Streets, Manhattan ....Telephone, 6280 Franklin
Borough of The Bronx, 3731 Third Avenue.............................Telephone, 1975 Tremont
Borough of Brooklyn, Flatbush Avenue and Willoughby Street ....Telephone, 4720 Main
Borough of Queens, 372-374 Fulton Street, Jamaica, L. I.................Telephone, 1200 Jamaica
Borough of Richmond, 514-516 Bay Street, Stapleton, S. I.................Telephone, 440 Tompkinsville

Office Hours—9 a. m. to 5 p. m.; Saturdays, 9 a. m. to 12 m.

HOSPITALS FOR CONTAGIOUS DISEASES.

Manhattan—Willard Parker Hospital, foot of East 16th Street. Telephone, 1600 Stuyvesant.
The Bronx—Riverside Hospital, North Brother Island. Telephone, 4000 Melrose.
Brooklyn—Kingston Avenue Hospital, Kingston Ave. and Fennimore St. Telephone, 4400 Flatbush.
Queens—Queensboro Hospital, Flushing Ave. and Lotts Lane. Telephone, 2600 Jamaica.

LABORATORIES.

Diagnosis Laboratory, Serological Laboratory, Centre and Walker Sts. Telephone, 6280 Franklin.
Research Laboratory, Chemical Laboratory, Vaccine Laboratory, Foot of East Sixteenth Street. Telephone, 1600 Stuyvesant.
Antitoxin Farm and Laboratory, Otisville, N. Y.

BABY HEALTH STATIONS.

Manhattan.

1. 172 East 3d St.
2. 513 East 11th St.
3. 306 Avenue A.
4. 443 1st Ave.
5. 225 East 107th St.
6. 241 East 40th St.
7. 174 Eldridge St.
8. 224 West 63d St.
9. 326 East 11th St.
10. 114 Thompson St.
11. 315 East 112th St.
12. 244 Mulberry St.
13. 508 West 47th St.
14. 78 Ninth Ave.
15. 348 East 74th St.
16. 205 East 96th St.
17. 209 Stanton St.
18. 343 Pleasant Ave.
19. 108 Cherry St.
20. 197 Hester St.
21. 27 Suffolk St.
22. 73 Cannon St.
23. 95 Suffolk St.
24. 206 Madison St.
25. 251 Monroe St.
26. 289 Tenth Ave.
27. 95 Forsyth St.
28. 2155 Fifth Ave.

Brooklyn.

1. 268 South 2d St.
2. 621 Fourth Ave.
3. 208 Hoyt St.
4. 144 Navy St.
5. 2346 Pacific St.
6. 184 Fourth Ave.
7. 359 Manhattan Ave.
8. 49 Carroll St.
9. 76 Johnson Ave.
10. 233 Suydam St.
11. 323 Osborn St.
12. 126 Dupont St.
13. 651 Manhattan Ave.
14. 179 Bedford Ave.
15. 296 Bushwick Ave.
16. 994 Flushing Ave.
17. 176 Nassau St.
18. 129 Osborn St.
19. 698 Henry St.
20. 594 Sutter Ave.
21. 167 Hopkins St.
22. 592 Park Ave.
23. 239 Graham Ave.
24. 49 Amboy St.

The Bronx.

1. 511 East 149th Street.
2. 428 East 133d Street.
3. 2380 Hughes Avenue.

Queens.

1. 114 Fulton Ave., Astoria.
2. 22 Maspeth Ave., Maspeth.
3. 753 Onderdonk Ave., Ridgewood

Richmond.

689 Bay Street, Stapleton, S. I.

DIAGNOSTIC CLINICS FOR VENEREAL DISEASES.

Manhattan—Centre and Walker Streets. Week days, 9 to 12 a. m.
307 West 33d Street. Wednesdays, 8 to 9 p. m.
Brooklyn—29 Third Avenue. Week days, 9 to 12 a. m. Mondays and Fridays, 8 to 9 p. m.
The Bronx—3731 Third Avenue. Week days, 11 a. m. to 1 p. m.
Queens—138 Hunter Ave., Long Island City. Mondays and Tuesdays, 10 a. m. to noon.
753 Onderdonk Ave., Ridgewood. Mondays and Wednesdays, 2 to 4 p. m.
112 Broadway, Flushing. Wednesdays and Fridays, 10 a. m. to noon.
372 Fulton St., Jamaica. Tuesdays and Thursdays, 2 to 4 p. m.
Queensboro Hospital, Flushing Avenue and Lotts Lane. Monday and Friday, 3 to 4.30 p. m.; Wednesday, 8 to 9 p. m.

ANTI-RABIC CLINICS.

Manhattan—Centre and Walker Streets. Telephone, 6280 Franklin. Week days, 1 to 4 p. m.
Brooklyn—29 Third Avenue. Telephone 6719 Main. Week days, 10 a. m. to 1 p. m. Sundays and holidays, 10 a. m. to 12 m.
The Bronx—Third Ave. and St. Paul's Pl. Tel., 1975 Tremont. Week days, 11 a. m. to 1 p. m.
Queens—Patients attend Brooklyn or Manhattan Clinic.
Richmond—Patients attend Manhattan Clinic.

On Sundays and holidays patients of all Boroughs attend Brooklyn Clinic. Hours on these days 10 a. m. to 12 noon.

Immunization against typhoid fever will be given on request at these clinics.

OCCUPATIONAL CLINIC.

Manhattan—145 Worth Street. Week days, 9 a. m. to noon. Telephone, 2373 Franklin.
The Bronx—493 East 139th Street. Week days, 2 to 4 p. m. Telephone, 6399 Melrose.

BRANCH OFFICES AND TUBERCULOSIS CLINICS.

Manhattan—Corlears, 331 Broome Street. Telephone, 7914 Orchard.
Stuyvesant, 111 East 10th Street. Telephone, 2859 Orchard.
Yorkville, 439 East 57th Street. Telephone, 2526 Plaza.
Jefferson, 341 Pleasant Ave. Telephone, 2375 and 828 Harlem.
Riverside, 481 West 145th Street. Telephone, 9068 Audubon.
Chelsea, 307 West 33d Street. Telephone, 3471 Greeley.
Washington, 130 Prince Street. Telephone, 9586 Spring.
Day Camp, Ferryboat "Manhattan," foot East 90th Street. Telephone, 1581 Lenox.
The Bronx—Tremont, St. Paul's Place and Third Avenue. Telephone, 1975 Tremont.
Mott Haven, 493 East 139th Street. Telephone, 5702 Melrose.
Brooklyn—Prospect, Fleet and Willoughby Streets. Telephone, 4720 Main.
Eastern District, 306 South 5th Street, Williamsburg. Telephone, 886 Williamsburg.
Germantown, 420 Herkimer Street. Telephone, 2220 Decatur.
Brownsville, 64 Pennsylvania Avenue. Telephone, 2732 East New York.
Parkville, 974 West Street. Telephone, 1866 Bath Beach.
Bay Ridge, 215 60th Street. Telephone, 2434 Sunset.
Day Camp, Ferryboat "Rutherford," foot of North 2d Street. Telephone, 2611 Greenpoint.
Queens—Jamaica, 372-374 Fulton Street, Jamaica. Telephone, 1200 Jamaica.
Flushing, 112-114 Broadway, Flushing. Telephone, 731 Flushing.
Ridgewood, 753 Onderdonk Ave., Ridgewood. Telephone, 3624 Evergreen.
Queens Plaza, 138 Hunter Ave. Telephone, 2589 Astoria.
Richmond—Richmond, Bay and Elizabeth Streets, Stapleton. Telephone, 1558 Tompkinsville.

SANATORIUM FOR TUBERCULOSIS.

Otisville, Orange County, N. Y. (via Erie Railroad from Jersey City). Telephone, 13 F 1 Otisville.

TUBERCULOSIS HOSPITAL ADMISSION BUREAU.

145 Worth Street. Telephone, 2373 Franklin. Hours, 9 a. m. to 5 p. m.

REPORT OF THE DEPARTMENT OF HEALTH, CITY OF NEW YORK, FOR THE YEAR 1917.

GENERAL ADMINISTRATION.

Reorganization.

Both the clerical and stenographic-typewriting services of the department which heretofore, had been performed under immediate direction of various bureaus were segregated into divisions under direction of the Secretary.

The reorganization of Division of Construction and Repairs, which was begun in 1916, was completed during the early part of the year. In addition to those features, performed by this division for several years past, were added general supervision of transportation and janitorial service of the department. Up to this year these functions were performed in various bureaus where this service was necessary, but these were transferred to the Division of Construction and Repairs, which then became known as Division of Construction, Janitorial and Transportation Service. Under the Engineer of the department, the work of janitors attached to various buildings used, other than hospital and laboratory service, is directly supervised. Much incidental repair work, formerly done by outside labor, is now cared for by janitors and laborers attached to these buildings, thereby saving the City considerable money. The transportation of supplies is under immediate control of this division, which has resulted in economy of service and better distribution of supplies to various shipping points.

Personnel of Department—During the year there has been developed, under immediate direction of the Secretary, an index which gives the duty of each position in the department, together with personal history of each employee. This index is correlated with an organization chart which visualizes the entire department, divided into bureaus and divisions, and by which is shown the distribution of the department's complete force.

Administrative Research—Under immediate direction of the Secretary, clerks have made a thorough analysis of the clerical service, by which the clerical force in offices of Brooklyn, The Bronx, Queens and Richmond have been reorganized. In addition, the clerical service under immediate direction of various bureaus has been analyzed in co-operation with the Directors.

A study of present clerical procedures followed in Health Districts in Queens is still being made, with view to installing in district offices a system of records and reports which will be more in harmony with a co-ordinate system such as proposed in Health District plan.

Office Buildings Altered—Careful analysis of the distribution of forces employed in buildings in various boroughs resulted in their redistribution. In Manhattan, floor space used for storage purposes was converted into office use and the various bureaus were relocated on floors, with a view toward more economic use of time in traveling to and from different bureaus.

In Brooklyn, unused space in basement was converted into a storeroom for stationery and printed forms, and to this building were moved the Antirabic and Occupational Disease Clinics, which were located in separate buildings not far from borough headquarters.

In buildings located in The Bronx, Queens and Richmond, changes in distribution of bureaus were made, with a view toward more effective administration of work.

Stores Accounting System—Preliminary work for new Stores Accounting System having been completed during latter part of 1916, this system was put into effect at beginning of 1917, under direction of the Secretary, in co-operation with the Auditor of department and representatives from the Comptroller. This new system, which provided for necessary steps to be taken in purchase, storage and distribution of supplies, was inaugurated as separate units in the various bureaus, and during the year these units were consolidated until, at close of 1917, with exception of some minor features, it is in operation as a general departmental procedure. The procedure with respect to purchase of supplies are still being formulated; but all other methods of work have been formulated and are in actual operation.

A Departmental Storekeeper was appointed and through him all requisitions for supplies must pass before being forwarded to Purchasing Agent. The Departmental Storekeeper makes requisitions upon Purchasing Agent for necessary supplies for the department. The new system correlates work incidental to purchase and distribution of supplies which formerly was performed by each bureau separately.

LAW DIVISION.

A brief statement of the important relationship that exists between the law and the administrative work of the Department of Health in administering provisions of the Sanitary Code, Charter of The City of New York and other health laws is submitted.

Very few, except those in direct contact with Health Department activities, realize how important a part the Sanitary Code plays in public health administration in the city. A brief summary of the work of enforcing provisions of the Sanitary Code may, therefore, be of interest. In its present form the Code consists of 18 articles, each subdivided into sections, all sections being designated numerically and numbering about 350.

During 1917, over 12,561 court prosecutions were instituted by representatives of Department of Health for violations of Sanitary Code. That they were justified is indicated by the fact that of 12,455 cases disposed of in the Criminal Courts only 363 defendants were acquitted, in other words, in less than 3 per cent. of total cases considered, the courts found defendants not guilty.

Of 9,504 minor prosecutions, the larger number were for violations of law against spitting in public places, exposure to dust and dirt of foodstuffs and muzzling of dogs.

Of 3,137 more important prosecutions, 2,975 were conducted in Municipal Term of the Magistrates' Court. These were largely cases involving sale of unwholesome, deleterious, adulterated or misbranded food, including milk, meats, fish, vegetables, eggs and beverages. These, together with prosecutions for nuisances and conditions prejudicial to life and health, adulterated and misbranded drugs and medicines, dirty milk cans and other food receptacles, failure to comply with and obey provisions of Sanitary Code and regulations supplementary thereto, and for conducting offensive trades and businesses in violation of law, constitute the bulk of cases prosecuted in these courts. The trial work in the Courts of Special Sessions and Municipal Term Courts is conducted by an Assistant Corporation Counsel especially assigned, while preparation of all such cases before trial is under jurisdiction of the Law Division.

Finally, 162 cases were prosecuted in the Courts of Special Sessions, defendant exercising his privilege to be tried before *three* justices. Of these, only 17 were acquitted. Of the defendants found guilty, eighteen were sentenced to jail, and those fined were required to pay an average fine of over $100.

In addition to criminal prosecutions mentioned, the Corporation Counsel, acting in behalf of Department of Health, instituted civil actions to recover penalty from those who have failed to comply with provisions of Sanitary Code and Charter of The City of New York. Among such cases may be mentioned actions against physicians for failure to report births, deaths or cases of infectious diseases; against midwives for failure to report births or to comply with rules and regulations governing practice of midwives; against undertakers and cemetery keepers for non-compliance with regulations regarding disposal of the dead.

Before any legal action, criminal or civil, is instituted by the Department of Health against an alleged offender, the facts and circumstances surrounding each particular case are carefully reviewed, both by administrative officers of bureau involved and by the legal division, to the end that unnecessary recourse to courts is avoided and that the alleged offender receives the benefit of every consideration and any doubt as to his guilt.

The volume of legal business as above outlined, large as it is, gives only a faint reflection of the vast amount of work being done in the Department of Health, especially bureaus dealing with sanitary matters, food and drugs, records, child hygiene and preventable diseases. It serves to explain, however, why, in general, the people in this city regard health regulations seriously—they realize that the Department of Health enforces the laws.

DIVISION OF AUDIT AND ACCOUNTS.

The following tables give a summary of receipts and expenditures of the department during the year:

SUMMARY OF EXPENSES OF DEPARTMENT OF HEALTH FOR YEAR ENDED DECEMBER 31, 1917.

	Personal Service.	Supplies, Equipment and Repairs.	Yearly Total.
Administration	$336,954 24	$99,854 36	$436,808 60
Public Health Education	14,016 82	3,606 04	17,622 86
Vital Statistics	55,758 82	2,120 03	57,878 85
Child Hygiene	596,297 32	15,443 55	611,740 87
Preventable Diseases	383,433 44	53,833 39	437,266 83
Sanitary Inspection	207,636 68	103,292 34	310,929 02
Food and Drug Inspection	213,224 28	35,007 90	248,232 18
Laboratory Service	188,531 73	62,629 30	251,161 03
Hospital Service:			
Executive	19,958 05	144 18	20,102 23
Willard Parker	155,419 12	130,328 35	285,747 47
Riverside	148,557 15	145,342 73	293,899 88
Kingston Avenue	117,109 65	98 016 36	215,126 01
Queensboro	21,441 23	11 593 64	33,034 87
Municipal Sanatorium, Otisville, N. Y.	96,968 20	167,816 21	264,784 41
Total	$2,555,306 73	$929,028 38	$3,484,335 11

COMPARATIVE STATEMENT OF RECEIPTS OF DEPARTMENT TURNED OVER TO GENERAL FUND.

	1917.
Laboratory Products—Total	$41,216 36
Searches and transcripts	44,337 83
Care and Maintenance of Hospitals	2,329 01
Auction Fat	1,393 39
Waste Paper	179 91
Miscellaneous	2,533 68
Total	$91.990 18

DIVISION OF INSTITUTION INSPECTION.

Organization—The Division of Institution Inspection was formed January 1, 1916, by the amalgamation of the Divisions of Institution Inspection attached to the Bureaus of Child Hygiene and Preventable Diseases. From that time it has been in the Bureau of General Administration, directly under jurisdiction of the Deputy Commissioner.

Staff—In addition to executive force of a Chief Inspector and two office clerks, the Division consists of 23 inspectors doing field work. In July, the Division was augmented by addition of seven inspectors to carry on work in the City in subsidized institutions similar to that done throughout the year in subsidized institutions outside the City.

Functions—The enlargement of the Division made at urgent request of the Department of Charities necessitated reorganization of work under two distinct sets of inspectors. One group of inspectors continued as institutional diagnosticians. Their functions include diagnosis and sanitary supervision of communicable diseases in institutions of all classes, sanitary inspection of all non-subsidized institutions, physical examination and re-examination twice a year of all children in child-caring institutions, receiving no City support. The administration of sera and toxins, application of the Schick test, collection of cultures, smears and blood for laboratory examination; medical examination of food handlers in institutions, investigation of proposed day nurseries, child-caring institutions, private hospitals and sanatoria, and laboratories offering facilities for diagnosis of communicable disease, prior to issuance of a permit. The verification of monthly medical reports of child-caring institutions, not receiving City money (required under State Public Health Law), diagnosis of illness among employes, and performance of field work for Division of Epidemiology, Venereal Diseases, Tuberculosis, Industrial Hygiene, and Midwives and Foundlings, in so far as this work concerns institutions.

The second group of inspections confine their activities to subsidized City institutions. These institutions are scattered throughout New York State and New Jersey, the majority, however, being within City limits. The inspectors assigned to these institutions make regularly, sanitary inspections of grounds and buildings, and semi-annually a complete physical examination, and re-examination of all inmates, irrespective of age. Ordinarily, no diagnosis of communicable diseases is undertaken by these inspectors. The City is divided into districts, identical with those of the Bureau of Preventable Diseases and each inspector is responsible for all Health Department activities in institutions in his district. Outside of the City each inspector has supervision of an equal number of subsidized institutions.

Important Achievements.

1. Introduction of the Schick Test as a routine measure in a large number of child-caring institutions.

2. Inspection and regulation of laboratories offering facilities for diagnosis of communicable diseases.

3. A survey of all institutions and a campaign of education regarding conservation of food and fuel.

4. A more comprehensive and detailed physical examination of inmates of all institutions subsidized by New York City.

5. A complete preliminary survey of all venereal clinics in New York City prior to enforcement of section 223 of Sanitary Code.

6. A complete sanitary survey of all institutions was effected, and many desirable improvements obtained, largely through personal effort of inspectors and co-operation of institution authorities.

DIVISION OF HEALTH DISTRICTS.

History and Organization—The Division of Health Districts has now been in existence three years, having originally been organized in 1914, for testing a new departure in public health administration.

Health District No. 1, including United States Census Area No. 6, on lower East Side in Manhattan, with a population of about 30,000, was the first office organized for that purpose, and was opened in November, 1914, at 206 Madison St.

The three principles upon which Health Districts were organized were: (1) Prevention of overlapping; (2) Local administration in accordance with local needs; (3) Establishment of a community spirit.

In the experimental stage of work, at Health District No. 1, great stress was laid upon co-ordination and correlation of various Health Department functions exercised in the district, for the purpose of serving them to the family in most efficient manner.

In consequence, overlapping was obviated and the family became the basic unit of Health Department service, and all functions served to the family were served by one nurse, instead of being divided among several nurses, each serving only one function.

This service led to introduction of a Family Record Card, which is a continuous history of the family, as far as Health Department service rendered is concerned, a record not found practicable under any but Health District organization.

The work carried on in Health District No. 1 for over a year, included a complete supervision of functions of the Bureaus of Child Hygiene and Preventable Diseases in this district with supervision of part of work of the Bureaus of Foods and Drugs, and Sanitation, and proved to be so satisfactory that it was extended to Borough of Queens, in May, 1916.

Four Health Districts were opened in that Borough, located in Long Island City, Flushing, Ridgewood and Jamaica.

In view of the fact that a complete public health program necessitated exercise of all Health Department field functions in a given neighborhood, the need for inclusion of all such functions under Health District supervision, soon became apparent, and they were gradually added, so that to-day the following are included:

School Medical Inspection.
Baby Welfare.
Supervision of Midwives and Foundlings.
Issuance of Employment Certificates.
Institution Inspections.
Tuberculosis Clinics.
Home Supervision of Tuberculosis.
Home Supervision of Infectious Diseases.
Food Handlers' Examinations.
Supervision of Rabies and other Animal Diseases.
Venereal Clinics.
Inspections for Industrial Hygiene.
District Sanitary Inspections, including sewage, garbage and offal disposal.
Sanitary supervision of special activities such as stables, comfort stations, laundries, barbers, etc.
Supervision of retail food stores.
Public Health Education.

The numerous duties devolving upon Health Officers in charge of respective Health Districts, made it apparent, that full, instead of part time, must be required of them for proper supervision of work, and all were placed on full time schedule in early part of 1917.

In order to carry out Borough autonomy to fullest extent the Assistant Sanitary Superintendent of Queens was put in full charge of details of administrative work of Health districts of Queens in June, 1917.

The following is a description of the more important activities of Health Districts during 1917:

Volunteer Clinics—The five volunteer dental and two eye clinics in Queens organized through co-operation of Health Districts were effectively utilized in correction of dental and eye defects of school children, 2,800 cases having been treated at these clinics during the year, thereby materially increasing number of corrected dental and eye defects.

Baby Welfare—A special effort has been made to extend Baby Welfare activities in Queens. During the summer the number of temporary baby health stations was increased by 3 to a total of 8, as compared with previous year, and, in addition, auxiliary baby health work was carried on at Flushing and Queens Plaza Health District offices on one or two mornings of the week during entire year. These activities appear to have affected the infant mortality rate of Queens very favorably, having reduced it from 102.6 in 1915, to 93.6 in 1916, to 91.54 in 1917.

Teaching Personal Hygiene to Industrial Workers—A series of noonday health talks was given at some industrial centres by Health Officers of this district. During the summer similar noonday talks were given to mothers employed in cigar factories, on subject of infant feeding and care of babies, this having been found the only time in which mothers who left their babies at home during entire day could be reached.

Public Health Education—A great deal of public health education has been performed during the year in Queens and in Health District No. 1. Exhibits on public health subjects were displayed in Health District offices, and a total of 143,718 pieces of Health Department literature was systematically distributed. In addition, numerous lectures, talks and demonstrations were given by Medical Inspectors and Nurses at public schools of the borough. A course of ten lectures in Yiddish on various health subjects was given at Health District No. 1, speakers being chosen from Advisory Committee of that district, the attendance being over six hundred at each lecture.

Co-operation With Mayor's Food Conservation Committee—A very close co-operation was effected in health districts in Queens with the Mayor's Food Conservation Committee, which has given numerous talks and demonstrations at health district offices on subject of food conservation in all its branches, several lectures being delivered by Assistant Sanitary Superintendent of borough.

After-Treatment of Cases of Poliomyelitis—As result of co-operative work with existing organizations, two clinics for after-care of poliomyelitis were organized, one in Queens Plaza, the other in Flushing Health District Office. These clinics are still in operation, attendance has been very large and plan has proved quite a success in reaching the cases in the borough. Transportation in 'buses has been provided for those unable to reach clinics easily.

Tuberculosis Clinics—Owing to increase in number of tuberculosis clinics in Queens, from two to four, the number of new cases at these clinics has increased very substantially, a total of 1,100 new examinations having been made in 1917 as compared to 762 in 1916.

Conferences With Food Handlers, Midwives, Etc.—In order to instruct storekeepers, in regulations of the Department, governing sale of foods, conferences with groups of food handlers, such as butchers, grocers, restaurant keepers, etc., were arranged at Health District offices at which regulations were explained in detail, with result that number of violations found at various stores was materially decreased.

Venereal Clinics—Advisory Venereal Clincis have been opened at each Health District office, at which diagnosis of cases is made, advice and instructions are given, and from which patients are referred to private physicians or dispensaries for treatment.

Boys' Health League—Boys' Health Leagues were formed in Health Districts for purpose of enlisting them in public health work of neighborhood. These boys were used in anti-litter campaign, in distribution of literature, in reporting violations of Sanitary Code, etc., and are a valuable adjunct to Health District organization.

Issuance of Employment Certificates—This work has been rigidly supervised with result that, of a total of 3,353 applicants examined, 411 were refused certificates for physical defects, correction of such defects wherever possible being insisted upon before issuance of certificates.

Improvement in Sanitary Conditions of Summer Colonies in Jamaica Bay—The large summer colonies which have sprung up during last few years around Jamaica Bay have been a constant menace to health, because of insanitary conditions of their privies. Substantial progress has been made in correcting this evil, 1,225 bungalows in Broad Channel and Ramblersville now being provided with proper privy facilities, the rest of bungalow owners having been directed to install similar sanitary privies.

Installation of New Sewers—Sanitary conditions at Laurel Hill and Blissville, and on Grove street, Flushing, have been materially improved by installation of semi-public sewers to replace open sewer trenches, 58 sewer connections having been made at Laurel Hill and Blissville and 1,500 feet of corrugated piping installed at Flushing.

In addition, the new trunk sewer at Corona has been completed. This will drain an area of 3,900 acres and afford connections for all premises in this densely populated section.

Privies and Cesspools—A special effort has been made to improve conditions regarding privies and cesspools in Queens, and, as a result, 358 have been abolished.

Bathing Establishments in Rockaway Section—A high standard of sanitary equipment for these establishments has been insisted upon, and adhered to.

The control of bathing houses of beaches of the borough has rendered these places absolutely safe from a sanitary standpoint, expert inspection and advice being given these establishments.

Drainage and Filling In of Swamp Lands—This work has made good progress within the year, as follows:

Juniper Swamp: (300 acres.) This tract has been ditched literally to convey water in open valley drains to Horse Brook Creek, along right-of-way of New York Connecting Railway.

Sunswick Creek Swamp Land Fill: 97.310 loads of fill have been placed in this land, a large contribution to work of reclaiming this low-lying, marshy area.

Corona Meadows: Substantial progress has been made in fill contract of this land, 300,000 loads having been placed by contractors.

Gutman Swamp: A contract has been let for draining of entire swamp, 129 acres in extent. When completed, this will reduce mosquito-breeding area in the borough. Work commenced December 15, 1917, on contract.

Flushing Meadows: The sand-blown fill of Flushing Meadows is virtually completed, about 500,000 cubic yards having been placed.

Mosquito Breeding—A special effort was made to control mosquito breeding as much as possible. As a result, 300 acres of Juniper Swamp, Mt. Olivet Cemetery plot, and 80 acres of Jamaica Bay marsh have been drained. Pools on Long Island Railroad property, and at Richmond Hill and Laurelton, aggregating about 5 acres, were oiled, and 250 roof tanks at Jamaica Bay points were screened.

References to Other City Departments—About 300 references relative to street drainage, dumps, unsheltered waiting transfer points, overcrowding of tenements, etc., were made to various City departments as a result of which much efficient work was accomplished.

Incinerators—Three large incinerators have been projected, one at Long Island City, in process of construction, one at Arverne for which contract has been awarded, and one at Flushing, for which plans have been approved. The public dumps of the borough, heretofore a matter of great concern, will be made almost wholly unnecessary by erection of these incinerators.

Arrests for Violations of Sanitary Code—Six hundred and forty-one arrests were made during the year with the following disposition: Fined, 269; suspended sentence, 322; dismissed, 48; dropped, 2.

Inspection of Retail Food Stores—The restaurants in Queens have been inspected for purpose of placing them all under permit, as required by new regulations of the Department, and as a result 496 permits for restaurants have been issued in the borough during the year.

Survey of Food Establishments—A survey, which is to include all retail food establishments of Queens, has been begun, inspectors of Bureaus of Food and Drugs, and Sanitation, and patrolmen taking part. When completed, every food establishment in the borough will be listed and will be available for showing those to whom permits have been issued and those requiring same.

Food Handlers' Examinations—The medical examination of food handlers in Queens, begun during the year, has made marked progress, a total number of 1,945 having been examined, of which number 669 have been found suffering from various ailments, those in a communicable stage being refused certificates.

SANITARY BUREAU.

The Sanitary Bureau consists of an executive office in Manhattan with a division for field and office duty in each of the boroughs.

It is charged with abatement of all nuisances; preservation of wholesomeness of air within all classes of buildings, except tenement houses; protection of purity of water supply except as otherwise specifically provided in the Charter; prevention of breeding of flies and mosquitoes and regulatory supervision over a long list of trades, businesses, matters or things which would tend to injury of workers thereat or of general public.

It is customary in a number of cities to charge the Department of Health with a large portion of supervision over building construction and maintenance of tenement houses. It is true that considerable responsibility for conditions surrounding these premises rests with this bureau. In this city the Building Bureau and Tenement House Department have primary jurisdiction, and in most instances, enforce suitable requirements for proper sanitation thereof.

The year has witnessed a long step forward in improvement of the city from a sanitary point of view. Intensive work along certain lines has gone far toward elimination of fly and mosquito breeding, the betterment of environment of factory workers and of pupils at private schools, provision of suitable bathing establishments and sanitation of recreation centres.

The recent change in Sanitary Code giving this Department jurisdiction over the safeguarding of life and health of employees in all trades in the city, has resulted (in a large number of factories) in proper disposition of gases, fumes, dust, fibres and other impurities at their source. This has been accomplished with a minimum of legal action and bids fair to be a fertile field for investigation and education in future.

Removal of sewage from ground surface and its disposal without nuisance necessitates installation of sewers and sewage disposal systems. In outlying boroughs this continues to demand attention of the bureau. Control of fly breeding requires extension of our activities in that respect to the handling and storage of manure on farmlands.

Important Activities of the Year.

Mosquitoes—This year will mark an epoch in the fight against mosquitoes in the City of New York, due to ditching of all salt marshlands in the city. This was made possible by the Board of Estimate and Board of Aldermen allowing the use of balance of fund of $150,000, voted in 1916 for drainage of marshes along Jamaica Bay, for extension of this work to other sections of Queens and Bronx. In addition, gangs of laborers were employed during greater part of year in maintaining ditches previously dug.

The inland conditions have been aggravated by closing down of a number of water pumping stations with consequent ponding of water in vicinity. To remedy condition at one plant it was necessary to screen 63 well heads, place over 3,800 cubic yards of fill and dig ditches to an adjacent creek.

In Queens there was a swamp of over 100 acres which to insist on filling would have been confiscatory. In the digging for New York Connecting Railroad it has been found possible to construct a drain to carry the water from swamp to Horse Brook Creek, thus eliminating a prolific breeding spot.

The large area in Queens known as Gutman Swamp has been under water for years. Legal difficulties prevented action against private owners of this land. An appropriation was finally secured to install a drain for reclaiming this land, and work has started. It is expected that there will be no water left by spring of 1918.

The department has maintained a laboring force in Richmond, digging and cleaning ditches and oiling low spots which could not be drained or readily filled. A survey of several of these places has disclosed the owners, and conferences with them, looking toward community actions for remedying conditions, have been instituted.

Development of the railroad yards at Port Ivory, Richmond, has materially interfered with mosquito ditches there. The outlet creek is now about 12 inches deep, while ditches are about 24 inches deep. The Baltimore & Ohio Railroad engineers have agreed to construct a new creek from 6 to 8 feet deep on conditions that no objection be offered to filling in the present creek.

Considerable fill has been placed in area known as Tibbett's Brook, Bronx. Added stimulus has been given to this work by action of the city in filling in pond at Van Cortlandt Park South.

In Bensonhurst section of Brooklyn the filling of streets to grade has placed a number of lots at low levels. Water has ponded on these and served as a breeding place for mosquitoes. Several of these lots have been filled by owners or oiled by private owner or by this department. In one instance drainage from one ungraded street entered a lot keeping it constantly flooded. This street was declared a public nuisance. The Borough President was directed to regrade and sewer it, and owner of lot compelled to install a sewer connection.

This bureau has assisted the officials in Queens in work carried on in Sunswick Creek section. By conference with private owners and borough officials a large amount of fill has been obtained and placed. A considerable plot of swamp has been reduced to a small area by fill obtained from Seventh Avenue subway excavation.

Through efforts of this bureau co-operating with Borough President's office, Queens, a pump and drain has been installed in Thrall and Beaufort Avenues, Woodhaven, which removes water ponding on Thrall Avenue after each rainstorm.

Through courtesy of Professor Morgan, of Columbia College, an exhibit of fly breeding was arranged, and 500 eight-ounce bottles showing growth and development of fruit fly and a similar number of quart jars of water containing mosquito eggs, larvæ, etc., were delivered to public schools of the city for instruction of children.

Manure—As manure is fly-blown so quickly it is necessary to take adequate measures to prevent its becoming a nuisance in stables and in its transportation to farm or outside of city limits. Best practice calls for its being kept in covered metal containers and removed from stable at least three times weekly.

Farmers or refuse material companies transport manure to farm or to dock or railroad siding in wagons operating under permit. During early summer there was a strike of drivers of these refuse carts and it was necessary to permit stable owners to cart this material in their own vehicles. By this measure accumulations of manure in stables was prevented.

The trouble experienced in the removal of manure induced one large horse owner to install an incinerator for its destruction. The inability to consume this material without odor, and the utter waste resulting from destruction of manure militated against popular use of such devices.

Numerous court actions were instituted against drivers of refuse material carts for violation of official regulations, and these were invariably sustained by courts and fines imposed.

During the year several additional railroad sidings, used for loading manure on cars, have been concreted and drained.

Stables—Strict supervision has been maintained over stables of the city with a consequent improvement in their sanitary conditions. While there is a slight decrease in the number of stables as compared with those in existence in 1916, there are now 10,584 stables containing a total of 108,036 horses.

Regular surveys are made of stables, particular attention being centered on those in thickly populated districts. Special inspections are made of every stable in which a case of glanders appears, and in one instance use of a stable was prohibited for such purpose due to presence of a large number of glanders cases.

Dead Animals—During the excessively hot spell of August a larger number of horses were overcome and died on the streets than ever before. Although the offal contractors had three times their ordinary equipment at work they were unable to keep pace with the deaths. This bureau sprinkled disinfectants over the carcasses and in the streets around these animals.

A barge loaded with 1,056 steers, calves and sheep, sank in Buttermilk Channel off Pier 33, on January 18th. After considerable difficulty this barge was raised and the animals removed to Barren Island for rendering.

A fire at offal plant on Barren Island necessitated use of rendering plants in New Jersey and Long Island City. While several residents near latter plant complained of offensive odors, these nuisances were slight and of short duration, as repairs in Barren Island plant were rushed.

Sewage—The Department successfully maintained its demand for a sewer for South and Midland Beaches before the Local Board of Richmond, and drainage plan for this area is now before Engineers of the Board of Estimate.

Through co-operation of Borough President's office, Baltimore & Ohio Railroad officials and contractors building docks at Clifton, Richmond, sewers emptying into enclosed basin there are being carried out to discharge beyond the fill into deep water.

There have been several cases in which cesspools have been emptied contrary to regulations of this department and offenders arrested and fined. The department has continued to set aside certain sewer manholes (with consent of Sewer Bureau) into which contents of these cesspools may be discharged. This does away with long hauls, facilitates work, lowers cost to property owner and renders him more willing to obey the law.

At request of the Corporation Counsel and for use in suits against the city, a survey of plants at both sides of Gowanus Canal, Brooklyn, was made. Wherever sewage was found discharging into canal so as to create a nuisance, orders were placed.

Numerous premises on which there were overflowing cesspools were ordered vacated until sewage disposal systems (generally of subsoil type) were installed. In one case a public spirited citizen permitted his lawn to be torn up and the sewer from offending premises connected to his private sewer. In a number of other cases owners elected to raze houses rather than make a proper disposal of waste.

Sewage from baths, concessions at Brighton and Brighton Beach Hotel, formerly discharged into cesspools which overflowed into creeks entering Sheepshead Bay. Upon request, private sewers were run from the hotel to public sewer about 3,000 feet away, and from baths and concessions to a line connecting with Manhattan Beach disposal works.

At request of Bronx Parkway Commission this department has appeared in favor of elimination of sewage from Bronx River and relocation of outlets of these sewers to discharge into other trunk sewers.

Spitting Crusades—Several times during the year crusades have been carried on against those spitting in public conveyances, stations, depots, etc. A large number of arrests were made as a result and the greater number of persons brought to court fined. While it would seem proper to continue making these arrests at all times, the small force at our disposal precludes this. It is believed that intensive action over a short space of time obtains the maximum newspaper publicity with its resultant educational value.

War Camps—This bureau has been co-operating with commanders and surgeons of camps of Army and Navy in and around New York. Methods of sewerage and sewage disposal, garbage collection and disposal, and mosquito elimination have been worked out. In addition, this department has exercised jurisdiction over sanitary conditions of these camps during construction.

Lodging Houses—Day and night inspections are made regularly of lodging houses to secure compliance with requirements of the department. Very few violations are now found in these places and they are gradually improving in condition, appearance and accommodations.

The presence of large numbers of soldiers and sailors in the city has induced several philanthropical persons and societies to open homes for them. At these places, which are, technically, lodging houses, excellent accommodations at reasonable rates may be had by men in service of the United States. This bureau is co-operating with these organizations to make surrounding conditions sanitary and agreeable.

This bureau fathered a bill introduced into the legislature which has been enacted into law, doing away with necessity of providing lodging-house proprietors with books and printed sheets upon which entries of all lodgers during each fortnight from September 1 to November 14 were made. A considerable saving to the city has resulted from repeal of old law covering these houses.

Drinking Water—The Sanitary Expert of this bureau inspects the watershed supplying water for this city at stated periods and reports for correction any condition liable to contaminate this water.

The outlying sections of the boroughs are not provided with city water. This necessitates use of well-water. The surrounding sanitary conditions are inspected and samples taken of water for examination and analysis. It is a settled policy to urge installation of city mains wherever possible, as maintenance of the purity of well-water is fraught with too many risks in a growing community.

In line with policy of department to procure drinking fountains in public places, the company controlling Midland Beach was prevailed upon to install a drinking fountain at railroad station.

Systematic inspections are made of water boats supplying drinking water to steamers in the harbor, and samples of water taken from them for analysis and examination. Where necessary the owners of boats are compelled to clean out and reline tanks and take other necessary precautions to safeguard water delivered.

By agreement with the Bureau of Buildings all connections of city water lines to well-water pipes in new buildings is prohibited. This action was taken in view of the prohibition against this practice in the department's regulations. It was deemed just to builders to notify them of this restriction as no well-water can be used in the city without a permit from this department, and regulations governing granting of these permits forbid such connection.

The same policy has been adopted at our requests by Board of Estimate Engineers in granting of franchises to run river water lines from territorial waters of the city to buildings in the city.

Common Drinking Cups—Inspections have been made of the theatres for methods in vogue in supplying drinking water. In a considerable number common glasses were in use. After conferences, proprietors replaced these with individual cups or provided hot water, soap and an attendant to cleanse them.

At railroad terminals, depots, ferry houses and other public places, cent-a-drink fountains are maintained. A number of glasses are provided into which vichy is run. An attendant often was present to place these glasses over a spray of water after each use. It was found that there was no protective value to this method and the company in charge started experimenting with paper lip pieces to fit on glasses over the rim. This substitute was not acceptable to this bureau and pending provision of a proper cup, the department insisted upon rinsing of the glasses in a solution of one-half pound of calcium hypochlorite to 25 gallons of water.

Private Schools—The survey of private schools has been continued and insanitary conditions in such schools remedied. Inspections of premises leased for public school purposes are made before their acceptance by Sinking Fund Commission.

Subways—The subways in course of construction have been examined in relation to conditions under which men employed therein work. In addition these excavations have been kept under observation to compel proper disposal of sewage from houses along these streets, to prevent accumulations of sewage, rainwater and mosquito breeding.

Dog Muzzling Crusades—This bureau has conducted several crusades against owners of unmuzzled dogs. To supplement these, raids have been made at certain localities in conjunction with American Society for Prevention of Cruelty to Animals in order to rid streets of stray dogs.

Ship Yard Surroundings—The influx of laborers in ship building sections along waterfront has resulted in considerable congestion in living quarters in vicinity. Surveys are in progress in these sections to prevent overcrowding and insanitary conditions.

Pigs, Chickens, etc.—In view of the war raising of pigs has been encouraged and proprietors assisted to keep their premises in sanitary condition and obtain swill for food for the hogs.

The ban against keeping of roosters during breeding season has also been removed during period of war.

At request of Navy and War Departments certain privileges have been extended to those certified to as raising pigeons for use of these departments.

Quack Advertising Signs—The inspectors of this bureau removed from public toilets signs advertising alleged cures or treatment of venereal diseases.

Soot Fall Studies—In order to determine amount of soot and dust in the city air, tin-lined copper vessels about 10 inches in height and 4 inches in diameter are placed on roofs of various department buildings in different boroughs. In these about 2 inches of distilled water is placed. They are removed monthly, replaced by similar vessels, and taken to laboratory for examination. Manhattan shows largest amount of dust present, while smallest amount appears in Queens.

These studies are made in conjunction with those of University of Pittsburg, although methods of examination have of necessity been refined by our chemists in view of small amount of soot present compared with air of Pittsburg.

Bathing Beaches—Special inspectors have been detailed to survey bathing beaches during summer season to enforce regulations governing public bathing establishments and camp colonies. More drastic regulations have been adopted by Board of Health for operation of public baths and compliance therewith has required constant supervision.

A number of yards, cellars, stores and furnished room houses near beaches have been utilized during Sundays and holidays as places where bathers may dress and undress. This practice soon became a nuisance. Numerous arrests were made and a large number of fines collected from those who refused to comply with regulations.

In line with policy to discourage bathing in polluted water, efforts have been made to provide suitable pools using salt water, filtered and treated. Several such pools have been opened during this year and work has been finished on a pool in the Bronx, claimed to be the largest in the city.

Samples of water for bacteriological examination are collected regularly from all pools, plunges and mikvehs, and suitable action taken to insure a maintenance of clean water.

Garbage Disposal Plants—An action was entered in Court of Special Sessions against New York Disposal Co. for allowing odors from its plant at Barren Island to become a nuisance. A fine of $100 was imposed.

The garbage plant at Lake Island is now receiving bulk of garbage from this city for rendering by Cob-Well process. The plant is well on way to completion, though several changes have been found necessary in its operation. Pending full use of this plant, the old plant on Barren Island has been leased for reduction of garbage.

Smoke—The unfortunate coal situation has hampered action against violators of dense smoke ordinance. Plant owners have, of necessity, been compelled to accept any kind of coal offered in order to keep running. The result has been that we have had a larger amount of dense smoke and cinder discharge to contend with than usual. In these instances we have attempted to cut down the nuisance by proper firing and by use of auxiliary appliances, with fairly good results.

Typhoid Outbreaks—Two typhoid outbreaks, one in Richmond and one in The Bronx, received attention of this bureau. Surveys were made around location of each case, with special reference to sewage disposal, water supply, fly breeding, etc. As a result several springs and wells, water of which proved to be contaminated, were closed.

Guarding Against Rats—Night inspections were made of more than 1,000 vessels from quarantined ports to compel maintenance of guards to prevent rats from ships getting to docks. Requirement of a permit from the department for docking all such boats was insisted upon. In view of danger of importation of rats from European countries a strict supervision is necessary. It is hoped that in near future suitable measures will be taken for rat proofing docks and buildings at or near the waterfront.

Comfort Stations—Periodic inspections are made of public comfort stations. At request of Park Department this department prepared a placard requesting the general public to properly care for these toilets and warning of consequence of negligence or criminality.

Laundries—The survey of laundries started last year has been continued. In view of greater knowledge of operating conditions obtained of these plants, new and more drastic regulations for protection of employees and of general public have been made.

Summer Resorts—Particular attention has been given summer resorts, camps and bungalow colonies frequented by large number of people during summer months. The disposal of garbage and excreta at these places must be watched carefully to prevent nuisances and conditions dangerous to health. In several colonies along the marshes the can privy system was found inoperative on account of lack of suitable scavenger service. Occupants of the premises were permitted to install privy vaults of tight sides extending down below the boggy, muddy top soil, with proper fly screening for contents. These worked well and served to protect water in which occupants of these premises bathed.

Watering Troughs—While the ordinance prohibits use of a common watering trough anywhere in public, several watering troughs are maintained arranged with a stand pipe from which water may be drawn into pails for horses. This has been accepted as a solution of the problem in hot months. Some horse owners' associations have been permitted to use common pails, washing the pails after each use in a 1 per cent. solution of hypochlorite of lime containing not less than 20 per cent. chlorine.

Dangerous Rock—At several points in Manhattan and The Bronx difficulty is experienced with rock overhanging public highways. In one instance such rock has been removed at an estimated cost of $50,000.

Odors from New Jersey Plants—Inspections have been made of factories at Shadyside and Edgewater, N. J., and observations made along Riverside Drive, Manhattan, for the Attorney General of the State.

Fumes, Dust, etc.—This bureau has carried on intensive surveys in factories, etc., where employees are subject to any fumes, dust, fibre, gases, hazardous or unsafe conditions, inadequate or excessive artificial illumination, and other insanitary conditions. Nuisances have been abated in fur dressing and dyeing establishments, dye works, hat factories, storage battery plants, smelting works, printing establishments, woodworking plants, stone grinding, polishing, buffing, lacquering, etc.

Unfortunately, a considerable number of operators of these establishments require court prodding before installing necessary safety devices, one action resulting in a fine of $250.

An educational campaign among owners of these plants is being carried on, and an effort made to have them comply gradually with requirements in worst conditions, leaving smaller dangers to be taken care of as soon as value of this work is shown to proprietors.

BUREAU OF PREVENTABLE DISEASES.

The activities of the Bureau during 1917 are separately dealt with under various Divisions into which work of the Bureau is divided.

Division of Infectious Diseases.

The most important change in procedure was connected with adoption of rules for isolation and quarantine of cases of infectious disease, more particularly diphtheria, scarlet fever, cerebro-spinal meningitis, anterior poliomyelitis, whooping cough, and typhoid fever. These regulations state explicitly the minimum sanitary requirements as to isolation and quarantine in cases of infectious diseases which are treated at home. A companion set of regulations which marked a very important departure in work of the Bureau, were rules governing hospitalization and forcible detention of cases of infectious disease in which minimum requirements for proper isolation and quarantine of patients were not observed.

CONTAGIOUS DISEASE WORK—1917.

Cases Reported.	Manhattan.	Bronx.	Brooklyn.	Queens.	Richmond.	City.
Small Pox	12	.....	1	.....	1	14
Measles	14,213	4,614	6,077	1,955	560	27,419
Scarlet Fever	2,328	1,065	1,903	806	158	6,260
Whooping Cough	1,998	902	2,247	379	71	5,597
Diphtheria	6,304	1,447	3,679	859	335	12,624
Mumps	1,793	313	1,606	274	115	4,101
German Measles	3,495	1,663	2,569	531	298	8,556
Chicken Pox	3,645	1,336	2,823	506	238	8,548
Total	33,788	11,340	20,905	5,310	1,776	73,119
Cases of Diphtheria and Scarlet Fever Removed to Hospitals	2,838	306	1,086	84	161	4,475
Visits to cases: Nurses	61,263	12,545	36,065	11,734	5,580	157,164
Medical Inspectors	12,245	4,662	11,777	3,450	1,237	33,373
Cultures Taken	18,924	2,382	8.701	3,656	1,312	34,975
Immunizations, Diphtheria	2,582	197	1,323	88	85	4,275
Injections Tetanus Antitoxin	23	10	31	.....	.....	64
Injections Typhoid Vaccine	904	164	490	199	579	2,336
Injections Pertussis Vaccine	3,931	417	22	324	3	4,697
Vaccinations performed	650	.....	50	.....	.....	700
Houses disinfected	8	.....	1	3	1	13
Rooms disinfected	25	.....	1	3	1	30

Measles—During October, November, and December, there was a fairly marked increase in incidence of measles in Brooklyn and Queens, but not greater than has been experienced at periodic intervals of about three years during several decades. There were in all boroughs 27,419 cases in 1917 as contrasted with 21,603 during 1916. Although since 1910, the Department has not placed any irksome restrictions upon private physicians or upon patients in isolation and quarantine of cases of measles, and even though placarding in cases of measles has in last several years been omitted, there has been no noticeable increase in number of reports of measles. This is cited because it is urged from time to time that there would be a great increase in reporting of infectious diseases if we relaxed regulations with respect to placarding of homes in which cases of contagious diseases exist.

There were 560 deaths reported from measles during 1917, as against 490 for preceding year, giving a case fatality of 2.04% for 1917. Manhattan seemed to have the highest case fatality, namely, 2.79%. How many others died of diseases that were a sequel to measles, it is difficult to say. It is hoped in future to arrange record cases of measles and deaths according to age groups. This is a desirable change in statistical work. Looked at in retrospect, the number of cases of measles although increased by slightly more than 6,000 in 1917 as against 1916, was very much less than during a number of preceding years

Diphtheria—In Brooklyn and Queens there was also a considerable increase in incidence of diphtheria during last quarter of 1917. For the city as a whole, however, the number of cases of diphtheria showed an appreciable decrease. There were 12,624 cases as compared with 13,521 during 1916. The number of deaths from diphtheria during 1917 were 1,158 as against 1,031 for 1916. The case fatality was 9.17%: Brooklyn having highest case fatality (9.87%), Queens next (9.43%), and Manhattan, third (9.34%). The increased incidence of diphtheria in last quarter in Brooklyn and Queens, was not, however, of abnormal proportions. It seemed to be one of the cyclical recurrences of this disease.

The most important lesson to be derived from experience during year in control of diphtheria, may be obtained from a study of benefits obtained from application of Schick test, together with use of active immunization by means of toxin-antitoxin. Institution experience seems to indicate that about one child out of every three of the age group particularly susceptible to contagion, gives a positive reaction to Schick test showing a lack of immunity to diphtheria. The application of this test and employment of active immunization by means of toxin-antitoxin in those children who gave a positive Schick reaction, has in many institutions apparently reduced diphtheria to an almost negligible quantity. It is not generally recognized that diphtheria is a disease which is not only, relatively speaking, widely prevalent, but that of all infectious diseases next to tuberculosis, it causes the highest number of deaths annually. Considering, therefore, the large number of cases recorded annually, and that it is fatal, in about 10% of all cases, it must be apparent that the time is at hand to consider practicability of instituting a general campaign through medical and lay press, through leaflets distributed to school children, and by other popular educational methods, to secure a more widespread adoption of use of Schick test for purpose of recognizing those susceptible, and employment of toxin-antitoxin as a means of producing immunity.

Scarlet Fever—There were 6,260 cases of scarlet fever in 1917 as against 5,814 during 1916. Manhattan and The Bronx bore the brunt of this increase. Whereas in 1917, 120 deaths were reported in 1916, there were but 96 deaths from the disease. The case fatality for 1917 was 1.92%. During the year, a special bulletin was prepared by the Bureau to be distributed through various channels to parents of children convalescing from scarlet fever, diphtheria, etc., especially to arouse their watchfulness and interest in giving these cases proper amount and kind of after-care. This was submitted but has not yet been approved for publication. In the last two years the City of New York has enjoyed a reduction in number of cases of scarlet fever by nearly half. Twice before in the last two decades, this City has enjoyed a similar marked decrease in incidence of this disease—in 1899 and 1900, and in 1905 and 1906. The reduction then was not quite as much as that last year. Whether these figures of comparative infrequency of the disease are the result of establishment of a widespread immunity following one or more years of increased prevalence, and whether arrival at school age of groups of children not made immune by exposure during years of increased prevalence, is difficult to say.

Whooping Cough—There were 5,597 cases reported in 1917 as against 7,460 in 1916. The case fatality was much higher, 489 deaths being recorded as against 349 for 1916. Manhattan had the largest case fatality, namely, 11.81%, the case fatality for entire city being 8.74% as against 4.68% for 1916. A fairly extensive trial of the efficacy of pertussis vaccine as a therapeutic measure, was undertaken by diagnosticians of the Bureau. The vaccine treatment, on the whole, gave a very poor account of itself. Approximately 400 cases treated were studied with a fair degree of care, practically all receiving from three to five injections. It was generally reported that in those cases where results seemed to be favorable (about 15% of cases) treatment seemed effective because it had been begun early.

On basis of experience of the diagnosticians, simple pertussis vaccine, if administered early enough, is of sufficient value to warrant its use, especially since there is no alternative treatment known to be effective. As a prophylactic treatment it seems to have a larger measure of value than when used therapeutically.

Poliomyelitis—As against 9,023 cases reported to the Department during 1916, there was a total of 138 cases reported during 1917. A fairly large number of cases reported as poliomyelitis or suspected of the disease, were upon careful study definitely diagnosed as free from this disease. They were types of cases which during a year of markedly increased prevalence would have been, without doubt, registered as cases of poliomyelitis.

Brooklyn, which yielded 4,344, or 50 per cent. of cases reported during 1916 for entire city, had only 39 cases during 1917. In other words, the incidence of poliomyelitis during 1917 may be regarded as normal.

Typhoid Fever is generally regarded by public health experts as the index of healthfulness of a community. Judging by this standard, there has been a gratifying and, excepting the year 1915, a constant diminution in prevalence of typhoid fever in this city, which shows, with exception of Chicago, one of the lowest incidence rates in any city having a population of more than 500,000 in the United States.

The number of deaths, which were 288 in 1916, were 251 in 1917, but the lessened incidence gave a greater case fatality, *i. e.*, 15.8 per cent. as against 13.2 per cent. for 1916.

Whereas, in 1916, source of infection was discovered by the Bureau in only 35 per cent. of all reported cases, in 1917, 40 per cent. were definitely traced to their source. 235 or 16.3 per cent. were result of contact with persons suffering from the disease. An infected milk supply in Richmond raised the cases traced to milk to 75 as against 19 for 1916. 16 cases were traced to contaminated bakery products, thus vindicating need for even more rigid examination of foodhandlers. 205 of total number of cases were result of infection contracted outside of New York City. This, together with cases that followed exposure to out of town cases, gave a total of 248 cases definitely traced to out of town sources.

1,766 persons received typhoid immunization through the staff of this Bureau, following direct exposure. 15,060 persons were immunized merely by way of precaution, an increase of nearly 6,000 over 1916 for same purpose. The number receiving immunization was largely swelled by soldiers who applied for this treatment.

898 of those reported were treated at hospitals, and 544 were treated at home.

TYPHOID FEVER.

	New York City.	
	1916.	1917.
Cases Reported:		
(a) True cases	1,617	1,442
(b) No cases	288	251
Deaths	215	229
Blood Sent to Laboratory:		
(a) Positive	1,189	1,388
(b) Negative	15,073	10,604
(c) Doubtful	1,583	883
Mode of Infection:		
1. (a) Contact with precocious carrier	20	43
(b) Active case	108	96
(c) Convalescent carrier	13	12
(d) Chronic Carrier:		
(1) Inferred	102	69
(2) Proven	17	14
Total contact cases	260	235
2. Contaminated milk	19	75
3. Infected well	1	1
4. Infected spring	...	5
5. Probable food contamination	7	...
6. Contaminated bakery products	...	16
7. Out of Town:		
(a) Infection	226	205
(b) Exposure	56	43
Total out of town	282	248
8. Not traced	1,048	870
Immunization:		
(a) Following direct exposure	3,023	1,766
(b) General prophylaxis	9 487	15,060
Total	12,510	16,826
Refusals by exposed persons	4,420	3,662
Patients Treated:		
(a) At hospital	1,052	898
(b) At home	565	544

This has been the lightest year for typhoid fever incidence. Previously 1916 was the lightest year. The deaths are somewhat heavier than last year's figures. Five hundred and eighty (580) cases were traced to definite sources of infection, being about 40 per cent. of total number of cases reported. Last year's percentage of cases traced was 35 per cent.

The large number of immunizations for general prophylaxis is due in a great measure to soldiers who received vaccine from the Department laboratories. There is still much to be desired in getting more immunizations performed of those exposed. Over 60 per cent. of cases were treated in hospitals. There was one institutional outbreak which took place in Manhattan State Hospital involving 42 cases.

In Richmond there was an outbreak of 69 cases due to contaminated milk.

Appended is a table giving statistics for the past five years:

TYPHOID FEVER—NEW YORK CITY.

	1913.	1914.	1915.	1916.	1917.	5 YEAR AVERAGE
Cases	2,643	2,260	2,456	1,617	1,412	2.083
Deaths	362	331	333	215	229	294
Case fatality	13.7	14.2	13.3	13.5	15.8	14
Case incidence per 100,000	49	40	41	28	25.1	37
Death rate per 100,000	7	5.9	6	3.8	4	5.3

Cerebro-Spinal Meningitis—322 cases were reported during 1917 as against 263 in 1916. 16 per cent. of all reported cases were in Manhattan, which had a rate of .07 per thousand of population, whereas other Boroughs had a higher rate than 1.04. The number of deaths among these 322 cases were 187. In Manhattan, the deaths were 108 out of 194 cases, a case fatality of 55.7 per cent.; in Brooklyn, in which 84 cases occurred, there were 59 deaths, a case fatality of 70.2 per cent.

Smallpox—Smallpox as an epidemic disease in New York has practically become non-existent. This is most interesting in that in the middle western and Pacific states this disease is still widely prevalent in certain parts; likewise in the south. Such cases as are found in the City are, to a very considerable degree, brought in from places far distant from New York. Many have been vaccinated only in childhood. The fact that they enter the City by various routes and enjoy a considerable freedom before discovered, is indication of the great protective value of vaccination which is practised much more generally in eastern states than in the west.

During 1917, fourteen cases were removed to Kingston Avenue Hospital by the Department. Six were colored. The youngest was fifteen years of age; the oldest sixty-five. There were no deaths. One case may be called severe. The others were all mild.

One patient was removed on first day of eruption; one on eleventh day. Average duration of time of removal was five days. Eleven patients came to New York during incubation period; one from the south; eight from the west; one from Connecticut; one from up State. The remaining three had not been out of the City within a month previous to onset. Of these, one was closely associated with the preceding case. The other two were presumably exposed to a case on our list who was abroad in City at time of their infection. No connection, however, could be shown.

Ten patients had been vaccinated in childhood; one seven years before attack; two had no vaccination history; and one was vaccinated on day of exposure. This patient came from the west; she was held under observation in City where exposed for about a week and then, because vaccination was successful, was released from further surveillance and told there was no further danger. She came to New York and developed smallpox fourteen days from date of exposure. These patients were all vaccinated on admission to hospital; none was successful.

About seven hundred exposed persons were vaccinated. Vaccinations were nearly all secondary and nearly all successful. Many of these exposures were slight and transient, and many others were repeated or constant for periods varying from one to eleven days. About half of the seven hundred were exposed to the eleven day case, who wandered about the City and spent a week in a hospital receiving treatment for an entirely alien and non-existent condition. Out of the entire number, there was one secondary case of smallpox who had lived in same room for a week with a preceding case. The great majority of those exposed were not immune to vaccine virus, though vaccinations were secondary. They all, with single exception noted, seemed immune to smallpox virus.

From the fact that we are quite frequently exposed to cases of smallpox that come from western and southern states, and enjoy a considerable freedom at times before discovered, and that an investigation made in Baby Health Stations of Bureau of Child Hygiene showed that where clientele was exclusively colored, fully 95 per cent. of children had not been vaccinated, while in a neighborhood where clientele was white, 35 per cent. had remained unvaccinated, there is every reason to continue to exercise utmost vigilance, not only with respect to diagnosis and isolation of cases of smallpox, but to persuade parents to promptly have children vaccinated, and to have revaccination conducted at proper intervals.

Typhus Fever—During 1917, there were 24 cases in the Greater City. There is no tendency toward increase in number of cases or severity of symptoms. All patients lived in Manhattan or Brooklyn. In Brooklyn, there were 6 cases, and 18 in Manhattan.

The diagnosis of typhus fever, in the work of the Department, is based on clinical evidence only, but symptoms and course of disease are so characteristic and constant that there seems no doubt as to correct diagnosis.

There were no complications and no deaths. One case, reported typhus, dying latter part of first week, was undoubtedly typhoid fever.

Rabies—Three patients died from rabies. None was bitten in the City during the year. One was bitten in 1916 in Queens; the other two came to New York during period of incubation.

Human Glanders—Two cases occurred, one in Manhattan and one in Brooklyn. One died; the other was discharged, apparently cured.

Pellagra—Nine cases were reported. They all presented, in varying degrees of severity, the classical syndrome of dermatitis, diarrhoea and mental depression.

Tetanus—Twenty-three cases occurred; nine in Brooklyn, nine in Manhattan, three in Richmond, one in Queens and one in The Bronx. Several were treated successfully by intraspinous and intravenous injections of anti-tetanus serum after onset of symptoms.

Leprosy—On January 1, 1918, the Department had records of 16 resident cases of leprosy. During 1917, eight cases died or were deported and four new cases were added to the list. Five cases were permitted to reside at their homes, the disease not being considered communicable.

Animal Diseases.

The supervision of animal diseases is exercised by the Chief Veterinarian who reports to the Chief of Division of Infectious Diseases of Bureau of Preventable Diseases.

Glanders—34,009 horses were examined by veterinarians attached to the department, and 2,335 were tested with mallein. As the result 587 horses were condemned and 82 were made subject of post-mortem examination. A new and radical departure has been effected in control of glanders. It was found previously that State authorities, who were supposed to exercise supervision at Albany as well as authorities of neighboring States allowed horses to enter New York without being properly tested as to presence of glanders. Finding no dependence on outside agencies, the Department, in accordance with recent amendments to Sanitary Code, will during 1918 receive information of horses consigned from places outside the City for delivery to dealers in the City, and unless such horses are certified properly to show they have been tested as to presence of glanders, they will be subjected to proper tests without delay. Horses certified to be free from glanders will be tagged by a special ear tag or by a hoof mark. Retesting of all horses in the City at frequent intervals is made mandatory. This goes far in advance of regulations of most cities in this particular.

Rabies—In efforts to prevent rabies, 11,352 dogs were examined by veterinarians. 702 dogs were destroyed; 30 of these showed a clinical and laboratory evidence of rabies. 955 persons who had been bitten by dogs were examined, 762 being held under observation for varying periods of anti-rabic clinics. The total number of injections given to patients who were receiving Pasteur treatment was 2,618. All animals that are destroyed are condemned only upon signs of marked viciousness, or because of suspected disease, or actual rabies. In addition, 80 cats were held under observation by veterinarians, 33 of which were destroyed. In addition to other activities, the medical inspectors in charge of antirabic clinics administered tetanus antitoxin to 64 persons.

Veterinary Diseases—1917.

Horses examined	34,009
Horses tested with mallein	2,335
Horses condemned	587
Post-mortem examination of horses	82
Dogs examined	11,352
Dogs destroyed	702
Cases of rabies in dogs	30
Persons examined for dog bites	945
Cats examined	80
Cats destroyed	33
Patients examined in anti-rabic clinics	762
Anti-rabic injections	2,618

Division of Tuberculosis.

Tuberculosis was less prevalent than during preceding year, death rate from the disease being increased not only in New York, but quite generally throughout United States. While, during 1916, there were 36,058 cases registered as tuberculosis, there were but 33,877 cases during 1917, a decrease of 2,181 cases. In other words, the number of cases per 1,000 population during 1916 was 6.43 and during 1917, 5.91.

The most important, if not chief, reason for marked decrease in number of cases reported is that no immigrants have entered this country for a considerable period.

The decrease in total number of cases on register cannot be attributed to failure of physicians to report cases, for the number of cases admitted to city institutions, to out-of-town sanatoria, to non-departmental as well as departmental clinics, and reported by private physicians, shared practically in same degree this decrease. During 1917, there was a general increase in wages and employment, which may possibly have reacted favorably to decrease incidence of tuberculosis.

Another explanation is the migration of relatively large numbers of men and women to other cities to secure employment in manufacture of munitions, in ship building, and other war industries. Many of these belong to the age group which furnish the largest number of cases of tuberculosis.

Of the 36,058 cases of tuberculosis on register during 1916, 6.30 per cent. were children, while during 1917, of a total registration of 33,877, 2,297 or 6.78 per cent. were children. The total number of new cases reported during 1917 was 17,489 as against 19,297 in 1916.

Sources of Reports and Distribution of Cases—10.9 per cent. of all cases were in care of private physicians during 1916, and 11.3 per cent. during 1917. It is recognized that, generally speaking, tuberculosis is a disease of the poor in the community, hence the small percentage of cases under care of private physicians. On the other hand, the number of cases cared for by city agencies, in city hospitals or attending clinics of the Department, are relatively large. During 1916, 35 per cent. were cared for through city agencies; during 1917, 34 per cent. Of this group, 18.4 per cent. were admitted to city hospitals during 1916, and 15.6 per cent. during 1917; and moreover, 16.6 per cent. of the cases were under care of tuberculosis clinics of the Department during 1916, and 18.4 per cent. during 1917.

Of the cases on register, 4 per cent. were under care of non-departmental tuberculosis clinics during 1916, and 3.9 per cent. during 1917. Further, 8 per cent. of cases had gone out of town or were admitted to sanatoria during 1916 and 8.2 per cent. during 1917. A group which constitute an important public health problem are those not under care of private physicians, of non-departmental tuberculosis clinics, or of any city agencies. This group constituted 18.8 per cent. of all registered cases during 1916, and 17.6 per cent. during 1917. For protection of the community, and for their individual good as well, nurses of the Department visit these cases regularly, and in addition to exercising sanitary supervision over their premises, attempt by persuasion to have them place themselves under medical supervision.

Practically one-quarter of all cases on register consist of the "lodging-house type," who drift from clinic to clinic, from place to place, and who are lost from sight for considerable periods. These are known as homeless cases, and their number is swelled by others who change their city address or leave town and cannot be traced. During 1916, 23 per cent. of cases were classified as homeless and not found cases, and during 1917, 25 per cent. were so classified.

Deaths from Tuberculosis—While there has been a decrease in number of cases of tuberculosis on register, there has been an increase in number of deaths reported during 1917 to number of 415. The number of deaths per 1,000 population was 1.50 for 1916, and 1.54 in 1917. Deaths from tuberculosis, which is a chronic and long-standing disease, cannot be properly charged against cases reported during 1917. It would be more correct to charge them against cases about three years ago, and in fact, during 1914, there was a relatively significant increase in number of cases reported. There were then 22,141 cases, with 8,825 deaths.

Activities of Tuberculosis Clinics—The total attendance of these clinics of the Department during 1917 was 33,196. Of this number 16,811 were new cases who sought assistance of clinic staff for diagnosis or treatment; 6,006 were cases continued under care from preceding year; and 10,379 were old cases readmitted. The total visits made to clinics during 1917 was 102,651, and at end of the year there remained under care of respective clinics, 6,261 cases.

Diagnosis at Clinics—Of new patients, 4,354 were diagnosed as cases of tuberculosis; 42 per cent. of this number had a positive sputum, and 58 per cent. having either negative sputum or awaiting laboratory confirmation. 11,923 persons were discharged from among new cases as not tuberculous. 342 cases suspected of being tuberculous, were transferred to clinics in their home districts, and 3,294 patients were still under observation or awaiting diagnosis at beginning of 1918. The total number of diagnoses during year was 19,913. The average number of cases under care of departmental tuberculosis clinics during 1917, was 5,468, of whom 19.8 per cent. were children.

Termination of Clinic Cases—Of the 5,468 cases cared for by our clinics, 29 per cent. were arrested or cured. However, a number of these cases had derived possibly the greater part of their benefit from out of town country care or hospital and sanatoria treatment, but a substantial number were exclusively under departmental care until their tuberculous condition became arrested or apparently cured. 28.5 per cent. entered hospitals during the year through departmental clinics, and 12.6 per cent. entered sanatoria. There were only 232 deaths among clinic patients, or 4.2 per cent. 17.1 per cent. were transferred to district clinic nearest their home and 8.4 per cent. did not return and could not be found.

Work of Clinic Physicians—Clinic work was performed by 78 clinic physicians. The total physical examinations made during year was 75,195, an average of 964 per year for each clinic physician. The average number of patients under care of each clinic physician was 425 for the year. The average cost of physical examination for each patient was 35 cents. The total number of prescriptions filled was 109,616.

Work Performed by Nurses—There was an average of 200 nurses on service during year, who divided their time between work necessary to assist clinic physicians in examination and history taking, registration of cases for purposes of record, visits to contagious disease cases, and visits to homes of tuberculous individuals. 170,643 visits were made to homes and 17,615 visits were made on behalf of these patients to social agencies to secure assistance where needed. Through efforts of nurses, 10,025 renovations of premises occupied by tuberculous individuals were obtained during year.

Social Service Work—The public spirited women who composed ladies' auxiliaries connected with certain tuberculous clinics of the Department gave most liberally not only of their money, but their personal service in numerous ways. They relieved many wants of some most needy families by confidential and other aid, and in many ways performed a service only equaled by the sincere and unobtrusive way in which it was offered. Through them 5,220 families were assisted. $1,834 was placed at disposal of our nurses for purchase of groceries, and $1,935 for clothing and shoes. In addition, 3,004 articles of clothing were furnished by them to be distributed to patients. Through their co-operation, and with aid and leadership of special employees of Department of Education, 149 sessions were conducted during year for large classes of children who were exposed to tuberculosis at home. It is important to note that those children enrolled in these classes for corrective exercise, remained free from tuberculosis, while other children of exactly same type and living under same conditions, who were not living in districts where such classes could be maintained, developed 5 per cent. of cases of tuberculosis. In connection with sessions of these corrective exercise classes, 4,762 lunches were distributed through aid of the Women's Auxiliary.

During the year, also, 693 children were sent to fresh air homes during summer time. 44 entertainments were arranged for many of these, 5,898 children attending.

In addition, through private contribution, dental clinics were established in connection with two tuberculosis clinics, and 1,635 children received free dental care, which was paid for by private agencies co-operating with the Department.

Test by Association of Tuberculosis Clinics—The work of the tuberculosis clinics has been found very effective, as a report of the Association of Tuberculosis Clinics shows. In order to discover whether the work in tuberculosis supervision and clinic care, as carried out by the Department could be improved upon, a special arrangement was entered into, by which a large territory from 14th to 42d streets, was given over to the Association of Tuberculosis Clinics, the district being known as Bellevue District. A special staff was assigned at Bellevue Dispensary to conduct this work most intensively, and after a year's effort concentrated upon tuberculosis, having eliminated all contagious disease supervision which our nurses have to include in their work, the Association reports to the Department that it could find nothing to suggest by which work of Department's tuberculosis clinics could be improved, and endorsing the activities, for despite their concentrated work upon the problem of tuberculosis in the district their results were in some respects not quite as good as those obtained by average tuberculosis clinic of the Department. This endorsement and commendation of work coming from those who had undertaken to show how it could be improved, is of decided value.

Division of Industrial Hygiene.

The reporting of occupational diseases still remains a much neglected activity, both as far as physicians, and hospitals and dispensaries are concerned. In part, too, it is caused by failure to recognize diseases primarily or secondarily caused by poisons connected with trade processes, and by industrial environmental conditions.

One hundred and sixty-three cases of occupational disease were reported during 1917. 88 reports were submitted by private physicians, 41 by hospitals, and 34 were discovered by inspectors of the Division in their routine work.

Progress is slow, but year by year since 1915, a small but encouraging increase in number of such reports is to be noted.

The work of the Division has consisted principally in investigation of a number of hazardous industries, particularly laundries, brass foundries, subways in construction, stone cutting, storage battery manufacture, printing establishments and brush manufacture. 610 individual factory establishments and shops were visited during the year. Including reinspections, the number of visits made was approximately 1,500. Some of the hazards discovered no doubt are responsible in large measure, either as predisposing factors, or as immediate exciting causes of specific occupational diseases, to say nothing of the variety of conditions discovered in course of this work, which are predisposing causes of degenerative diseases of heart, blood vessels and kidneys, or responsible for nervous and physical strains of great variety. A reference to granite cutting industry is of particular value. In 31 establishments where granite stone is cut by machinery or by hand, large quantities of stone dust were liberated. It is notorious that stone cutters suffer a high mortality rate from pulmonary tuberculosis, though not as high as printers and clerks and stenographers as a group. An investigation of death benefit paid to 211 families, where death had occurred during 1916 showed that 101 of the 211 deaths were due to pulmonary tuberculosis, and 21 to acute lobar pneumonia. This high mortality rate from pulmonary tuberculosis is a striking and recognized feature illustrating the hazardous character of stone cutting. When, therefore, we find that 23 places out of 31 investigated were reported as showing a decided dust hazard, the importance of interpreting such figures as an indication for enforcement of measures to remove dust becomes apparent.

The instance cited should show how figures can be translated as indications of the large field of preventive work in connection with industrial hygienic supervision of more than 50,000 factories and shops in Greater New York.

One cannot do more than briefly allude to the 76 printing establishments, in 42 of which fumes of lead were generated in quantities dangerous to health; or the 17 storage battery places in which such fumes were also generated; or the 47 brass foundries where fumes not only of brass, but lead and other metallic poisons as well, were found present.

The four inspectors of the Division abated 678 out of a total of 2,561 nuisances which they discovered. The balance of these nuisances which could not be abated by personal efforts of inspectors, were submitted to the Sanitary Bureau.

The work in factory studies touched lives and interests of 45,642 persons employed in 610 establishments inspected; 35,261 were male, and 10,381 were female. The Sanitary Bureau issued 500 legal notices to enforce abatement of nuisances which our inspectors had referred to them; they failed to sustain inspectors in 329 complaints, and reported that they had abated by personal efforts of inspectors of their bureau 352. The balance of complaints referred to Sanitary Bureau are still awaiting action.

In addition to examination of 200 laundry workers, the medical staff of the Division examined nearly 300 trade school girls to discover physical conditions that would disqualify them from taking up specific occupations, and to advise as to medical or surgical treatment which would better fit the girls for an industrial life.

In various other industries, examinations of workers were made, and are held to await subsequent report when a sufficient large number shall have been examined in each particular group.

Lectures—Numerous lectures were given before trade unions, public school assemblies, civic bodies and others.

Labor Co-operation—The Labor Sanitation Conference proved a most valuable auxiliary. It consists of representatives of 96 labor unions in the City, and of the four parent or central labor organizations. Through their co-operation, much educational propaganda was possible, and many industries were brought to our attention in which medical and sanitary supervision were urgently needed. This Labor Sanitation Conference working in closest co-operation with the Division, did more than all other agencies combined to educate workers in injuries to health from industrial causes.

Examination of Food Handlers—20,805 food handlers employed in public kitchens and dining rooms were examined by respective branches of the occupational clinic of the Division, the bulk of work being done in Manhattan. Including examination of 4,888 bakers, the total number examined by staff of ten clinic physicians was 25,693.

Sixty-two persons were found among the first group of 20,805 who were suffering from tuberculosis; there were also 122 suspected of having tuberculosis, and who, while under observation pending definite diagnosis, were made to report at frequent intervals for renewal of health certificates. The positive cases were in each instance excluded from work as food handlers. Among the 4,888 bakers, 23 were found suffering from tuberculosis, and 25 were suspected.

The respective tuberculosis clinics of the Department contributed reports of 76 additional cases in food handlers under their care.

Private physicians performed more than twice as many examinations of food handlers as did all occupational disease clinics during 1917. In all they examined 56,116 food handlers, and reported 10 cases of tuberculosis and 9 cases suspected. Beyond this, they contributed no information of practical assistance with relation to incidence of infectious diseases among food handlers.

Venereal Disease Among Food Handlers—The occupational clinic found 23 cases of syphilis in a communicable stage among the total number of food handlers and bakers examined. In addition, they obtained a positive Wassermann reaction in 417 other cases showing latent syphilis. Acute gonorrhoea was found in 44 food handlers and in 3 bakers. The cases that were in a communicable stage were excluded from work as food handlers during period when disease was active, efforts being made by social service nurses to place as many of these as possible in occupations in which they would not endanger public health.

A large number of other diseases were discovered among food handlers. Special mention should be made of the frequency of cardio-vascular disease among bakers and food handlers. Among the 4,888 bakers, we found 54 suffering from chronic valvular disease, and 24 from muscular disease of heart. Among the 20,805 food handlers, we found 262 suffering from valvular disease of heart and 70 from myocardial disease. Chronic bronchitis was found among 100 bakers and 287 food handlers; marked anaemia in 44 bakers and 245 food handlers; marked caries of teeth among 1,056 bakers and 4,584 food handlers. 221 bakers and 570 food handlers were found suffering from hernia, and 6 bakers and 611 food handlers from chronic nephritis. 104 bakers and 647 food handlers had marked varicose veins of legs and 190 bakers and 723 food handlers had marked flat foot.

Work in connection with these non-contagious physical defects was of a special preventive character. Every person was interviewed by a medical officer assigned to confirm the diagnosis, and they were referred in many instances to private physicians, public hospitals and dispensaries. Those suffering from heart disease or other disease of a character which constituted a serious industrial handicap, were in a number of instances placed in more healthful occupations, and home visiting was done in other cases to correct anaemia, malnutrition, and other conditions possibly due to the home.

Division of Venereal Diseases.

Syphilis—A comparison of number of cases reported for 1916 and 1917 shows a relatively unimportant decrease during 1917 of 295 cases. It should be recalled in this connection that a large number of cases are reported through the Diagnosis Laboratory, to which blood for Wassermann test is submitted by many physicians, and by venereal disease clinics of the Department. This decrease in number of cases of positive Wassermann test reported by the laboratory occurred notwithstanding the fact that it performed Wassermann tests in more than 10,000 cases more than during preceding year. The number of cases reported by private physicians, except through positive tests obtained by laboratory, is practically negligible.

Gonorrhoea—The number of cases of gonorrhoea reported by private physicians, however, has shown a marked increase. During 1916, they reported 101 cases; during 1917, 437 cases. The total number reported to the Department during 1917 was 8,312, as against 6,341 during 1916, an increase of 1,971 cases. Departmental physicians attached to venereal disease clinics obtained more than 14,000 specimens of blood during year. Of these 600 were children, and it was found necessary to resort to cupping in but two cases. This indicates a very high degree of efficiency in technique of this procedure.

The activities of the diagnostic or venereal disease clinics make a very interesting comparison for the two years. This work was conducted by one clinic in Manhattan, one in Brooklyn, and one in The Bronx. In 1916, the day clinics were consulted by 16,728 persons; in 1917, by 18,751. In 1916, the night clinics were visited by 2,368 persons, and in 1917, by 2,700. The Medical Adviser to whom are sent many persons by private physicians for special opinion, but whose largest proportion of cases are those led to consult him because of signs posted in lavatories in public places, warning against quacks, saw 3,866 cases in 1916, and 3,608 in 1917. All told, the Venereal Disease clinics had a total number of 22,962 visits during 1916, while during 1917, the total number of visits made to these clinics was 25,059. Brooklyn handled approximately 20 per cent. of work, the work in The Bronx being rather slight in amount.

Important changes in procedures have been effected in connection with venereal disease control, exercised by the Department, during last two months of 1917.

First, a definite procedure has been elaborated for forcible removal and detention in hospitals of persons suffering from venereal disease in communicable stage who are unwilling or unable to exercise proper care to prevent spread of disease to others. This procedure has been acted upon in a number of instances, and persons, especially those of vagrant type, have been committed to hospitals, to be detained until infectious period of disease was at an end. This procedure will be more readily enforcible when the venereal disease hospital, which is nearly completed on North Brother Island, is ready for occupancy. The amendment to Sanitary Code and adoption of some specific regulation requiring that certain diagnostic clinical standards be maintained in connection with operation of venereal disease clinics will, it is hoped, do much to elevate the character of work done in public institutions giving such treatment. The new State Law and Sanitary Code amendment which has been framed to harmonize with this law, makes it mandatory upon physicians to distribute to patients suffering from venereal diseases in infectious stage, circulars regarding precautions to be taken to prevent spread of such diseases. The circular prepared by the Department is in certain important particulars more emphatic and definite in its instructions and counsel to patients suffering from venereal disease. The enactment of a State law preventing advertisements of quacks and patent medicines for treatment of venereal diseases may be regarded as an important advance in care of venereal patients, both from administrative public health standpoint, and from standpoint of private practice.

BUREAU OF CHILD HYGIENE.

Functions and Organization.

The Bureau was organized to deal with all matters pertaining to prevention of disease in children from birth to adolescence. It includes the Divisions of Midwives and Foundlings, of Baby Welfare, of School Medical Inspection and of Employment Certificates. In addition, there is a Superintendent of Nurses. At present there are 588 employees engaged in child welfare work. This includes 169 physicians and 326 nurses. The budget also provides for temporary appointment of fifty-seven additional nurses during five summer months.

Important Activities During 1917.

The direct activities of the Bureau have been somewhat lessened owing to transfer of supervision of day nurseries and institutions for dependent children to the office of Deputy Commissioner, and transfer of employees of the Bureau in Queens to the supervision of local health officers under health district service.

The continued control of midwives is leading to a higher type of practice by these women, also to a gradual lessening of proportion of births reported as having been attended by them. During the first year of organization of the Bureau—1909—midwives attended 40.35 per cent of all births reported. During 1917 there were reported 141,564 births, of which 94,039 (66.4 per cent) were reported by physicians, and 47,525 (33.6 per cent) by midwives.

The most striking result of the Bureau's activities, is reduction of the infant death rate of the city. In 1907 this rate was 144 per thousand reported births. In 1917 it was 88.8. This places New York City in position of having the lowest infant mortality rate of any of the large cities of the world, and only equalled or excelled by a few small cities or towns in the United States.

This continued decrease in death rate is, undoubtedly, the cumulative effect of educational work. Studies made during the year show that infant mortality rate among babies in attendance at baby health stations, based upon infant days' attendance, was 42 in 1916 as compared with 93 for the city as a whole. This method of computing death rate subjects the station service to highest possible test of its efficiency as based upon infant days' attendance and not number of babies in attendance, and therefore is an indication of value of these stations.

A detailed study was made of effect of artificial and natural ventilation upon production of respiratory diseases in school children. Results showed that children in classrooms with closed windows, ventilated by mechanical methods and kept at temperature of about sixty-eight degrees, were more subject to respiratory diseases than were children in classrooms kept at same or lower temperature and ventilated wholly by open windows.

Division of Midwives and Foundlings.

BOARD AND CARE OF CHILDREN IN PRIVATE HOMES.

Nineteen hundred and seventeen saw the largest number of private homes boarding children since inauguration of this system for care of dependents. This is due to adoption of system of boarding out children by the Department of Public Charities.

On December 31, 1916, there were in force 5,330 permits for board and care of children. On December 31, 1917, this number had increased to 5,698.

In order to have accurate knowledge as to character of each home and its adaptability to care of certain classes of children, homes have been granted and classified according to sanitary and home conditions. As result of this grading the placing of children of different ages, conditions and dietetic requirements has been facilitated, and homes which required close follow-up and more intensive care were readily noted.

The Division has a registry of all persons boarding children which accounts for all children in foundling keeper's home, and offers information regarding persons responsible for children placed there.

ACTIVITIES OF MIDWIVES.

During the year midwives have been required to keep a registry of their professional activities. This gives record of extent and character of practice of the individual midwife. It also makes available current information as to supervision of midwife by department nurse and inspector and provides a list of new-born babies in poorer sections of the city, where needy cases may be taken under early supervision by baby health stations.

Midwives are required by regulations of the Department to report at once all cases of sore eyes observed in their practice. These cases are followed up by nurses of the bureau and are not discharged until it is evident that child is receiving appropriate treatment. Such cases are kept on record until terminated, when final visit is made by an oculist to determine any permanent impairment of structure of the eye or of vision as a result of disease.

The Sanitary Code also requires reporting of puerperal septicaemia, immediately after diagnosis is made. A campaign of notification of failure to report has been inaugurated. This has resulted in increasing number of cases reported before death. In every case investigated, special effort was made to determine whether a midwife had been in attendance on the case at any time, if so, it was charged against her record. For this reason it is probable that many cases are charged against records of midwives where actual confinement took place under care of physicians.

During 1917 the Division has attempted to instruct midwives in their care of expectant mothers, with result that midwives have registered 1,865 mothers with the Department for instruction in prenatal hygiene.

The Division has co-operated actively with Police Department to detect and prosecute those engaged in criminal practice.

Division of Baby Welfare.

The Division is charged primarily with care of babies under two years of age, but its functions have been gradually enlarged until now they include instruction and supervision of expectant mothers, physical examination of children of preschool age and use of baby health stations for local activities having to do with welfare of immediate vicinity. There are fifty-nine baby health stations in operation. The first fifteen were organized in 1911. The title "baby health station" is used instead of old title "infants milk station" to emphasize educational and prophylactic objects of service rather than value of milk, as the primary factor is in control of infant and child welfare.

Result of this attitude is shown in great increase in number of breast-fed babies brought to stations for supervision. When stations were first opened, practically all babies enrolled were artificially fed.

In analyzing character of feeding at various stations, it was found that highest percentage of children breast-fed exclusively in any one station was 93 per cent. and lowest 9 per cent—the former being in a station where Italian clientele predominates and the latter at station where clientele is Irish, Polish, Jewish and Italian. It is evident that increased emphasis must be laid upon this prenatal work as the next urgent step in reduction of infant mortality rate. The department not only gives this prenatal instruction, but, at end of first month of baby's life, the case is transferred to baby health station and kept under supervision during entire first year.

The popularity of stations has been attested by increased enrollment, so that at present almost fifty thousand attend annually, about eighty-five per cent. of whom are under one year of age and fifteen per cent. from one to two years. In many stations the second, third or fourth child has been registered, others having been graduated.

The milk sold at stations is of Grade A, pasteurized quality, in quart bottles. The use of whole milk rather than prepared individual feedings has continued to be advisable, in that parents may remove to other sections of city and secure a similar grade of milk. It encourages a sense of parental responsibility, in that milk is modified according to directions of physician at station, and modification of milk necessitates home visitation by nurse and carries with it instruction in hygiene, sanitation, personal and home cleanliness and rules of proper living.

Reduction of Infant Mortality.

While not the only factor in control of infant morbidity and mortality, the baby health stations may surely be considered the predominating factor. The educational effects made for such control have reflected themselves upon the mortality under two years and under five years of age—a true index of continuity of educational propaganda conducted along infant mortality lines. The mortality rate for children under two years of age per thousand estimated population has declined from 70.3 in 1913 to 57 in 1917, and for children under five years from 37.6 in 1913 to 30 in 1917.

A most valuable asset to station service has been the organization of a Women's Auxiliary of the Baby Health Stations, a group of philanthropic women who voluntarily formed a relief organization for giving succor to worthy and deserving patrons of stations. Each member is assigned to one or more stations and acts as "big sister" to all mothers and babies of the station. What this means to the station service can best be appreciated from actual observation and experience.

Little Mothers' League.

These leagues, composed of school girls of twelve years of age and over, have been part of the bureau organization for almost ten years and have been organized and conducted in public and parochial schools. As such, they were largely institutions of summer months. The need for all-year-round organization has long been felt by the bureau, and during this year a Little Mothers' League was organized at the majority of baby health stations. The school leagues meet at stations during summer months and at end of that period are incorporated with the permanent baby health station leagues. During past years thousands of school girls have come under the educational influence of inspectors and nurses of the Bureau through these leagues Many thousands of weekly meetings have been held and from one hundred twenty-five to one hundred seventy-five leagues have been in operation annually. During spring and summer of this year forty-nine baby health station leagues were organized, with an initial enrollment of 2,329 and an attendance of 662.

With 15,000 to 20,000 girls being taught child care annually, with these girls spreading and practicing the gospel of "keep the baby well," and with the undertaking of responsibility of motherhood by these girls in later years, a definite reduction in infant mortality rate may be expected.

District or Home Visiting for Control of Infant Mortality by Corps of Field Nurses.

The Bureau is active in control of infant morbidity and mortality during summer months not only through baby health stations, but through district or home visiting of nurses from the Division of School Medical Inspection.

During this period one hundred thirty-two nurses were assigned to special districts, in which an analysis by sanitary areas showed that infant mortality and birth rate were highest. Visits were made to well babies at least once every ten days and to ill or poorly-nourished babies as frequently as required. The district nurses made their headquarters at adjoining baby health stations and conferences were held daily with medical inspectors, who visited homes of sick and delicate babies and prescribed all necessary treatment and advice.

This work is one of the public health problems of the future and is of enormous magnitude when it is considered that the estimated population of children from two to six years of age—the preschool age—is 462,000, or almost one-half the estimated school population of one million. Furthermore, when the entire working medical and nursing forces of the Division of School Medical Inspection examine approximately 275,000 children annually, it may be seen what a large working force would be necessary to make any definite impression upon the status of children of preschool age.

Division of School Medical Inspection.

The work of the Division has been carried on with same numerical force as during 1916, with exception of three dental hygienists, appointed late in the year. Although the number of parochial schools has increased slightly, the total number of pupils has remained about the same. At present school medical inspection is being carried on in sixty-four high schools (including annexes), five hundred forty-four elementary schools, two hundred fifty parochial schools, twenty industrial schools, forty-three kindergartens, with a total registration of 944,071 pupils.

Activities of the division have been extended in a number of ways, principally in making early examinations, obtaining prompt treatment and keeping under closer supervision pupils referred by teacher or nurse as presumably suffering from some gross physical defect. Frequent examination and constant supervision are now given to all pupils placed in special classes, such as those provided for the anemic, blind, partially blind, crippled, retarded or backward children.

In the past we have tried to give each child a complete physical examination during its first, third and sixth years of school life, but with the gradual extension and specialization of work, the task has been found almost hopeless. The putting into effect in public schools of the syllabus on hygiene and setting apart of a special day each term, at which time teachers carefully inspect the children, test vision and hearing and examine teeth, has resulted in reference to medical inspector of large numbers of children, presumably suffering from gross physical defects. In order to examine these children it has become necessary for medical inspectors to forego making physical examinations in third and sixth years until after completion of specially referred cases. As a result, treatment is obtained at a correspondingly earlier age than under old system.

The advantages of conducting physical examinations in presence of parent were so clearly demonstrated in 1916 that every effort was made to extend this work to all schools where school principals would co-operate to induce parents to call at stated times when doctor would be present to consult them as to physical condition of their children. In practically all these cases treatment is obtained without further effort or visits by nurse. The only drawback is that this method cannot be applied successfully in all sections.

PHYSICAL EXAMINATION OF NEW ADMISSIONS BY PRIVATE PHYSICIANS—It was expected that physical examination of new admissions to school by their private physicians would release much time of medical inspectors for other work. However, these examinations have not increased and it is apparent that the time has not yet arrived when the parent will take the normal child to family physician for periodical physical examination.

EXTENSION OF WORK IN HIGH SCHOOLS—There is no question but that high schools need more service from nurses and medical inspectors. During the year a large number of requests have been received from high school principals for additional service in connection with campaign to eradicate pedicuposis in high school girls. Also, many pupils are being discovered in high schools with physical defects of long standing. This applies especially to defects of vision. It is felt that, as time goes on, effort must be made to provide additional service for high schools.

PHYSICAL EXAMINATIONS AND CONSULTATIONS AT SCHOOLS ON SATURDAYS—In a number of districts the experiment of making appointments for parents to call at schools on Saturday mornings for purpose of having children physically examined or consulting them as to children found to have physical defects, has been tried with excellent results. There has been found a large saving in time of both medical inspector and nurse when work is thus arranged.

SUPERVISION OF OPEN-AIR CLASSES—On November 9, 1916, the Board of Education adopted a resolution requesting the Department of Health to examine and pass upon all children to be admitted to "anemic classes" or to be discharged therefrom. The work was finally begun by the Department on February 1, 1917, at which time there were eighty-four of these classes, since increased to ninety-six.

The three groups of fresh-air classes are:

1. Out-door classes—for pulmonary tuberculosis cases—Located at day camps and sanatoria. Supervised by Bureau of Preventable Diseases and private organizations.

2. Open-air classes—Types of pupils in these classes will be enumerated in another part of this report. Located in public school buildings. Supervised by Bureau of Child Hygiene.

3. Open-window classes—Regular classes of normal pupils. Windows may be kept open and rooms kept at temperature ranging from fifty to sixty-five degrees. These classes have been organized or discontinued at discretion of principal. No supervision maintained over them at present.

The Bureau of Child Hygiene has established definite types of pupils who are to be admitted to "open-air classes," as follows:

1. Children exposed to tuberculosis at home or in whose family there has been a recent death from this disease.
2. Children who have had tuberculosis which is now arrested or cured.
3. Children suffering from malnutrition.
4. Children who become tired easily or show languor or fatigue before end of day and thus are unable to carry on their class work.
5. Children suffering from nervous diseases, except chorea.
6. Children absent frequently because of colds, bronchitis, etc.
7. Children suffering from cardiac disease who are recommended by their private physician for these classes.

The work performed in an open-air class by an inspector or nurse must be recorded on a special record form, subsequently to be incorporated in statistical report of these classes.

The maximum register of an open-air class has been established by the Board of Education to be twenty-five pupils. Written request of a parent must be procured before a child may be admitted. In order that most deserving cases may be provided for and to prevent any class from falling off in attendance, a waiting list is kept in each school.

The length of time a pupil is kept in open-air class is regulated by physical progress made and ability to maintain his gain if returned to a regular class. Those pupils coming under Types 1, 2 and 3, of necessity, must be kept in the class a long time, even a number of years, in many cases. As cases selected are always of marked type, rarely will a child be in fit condition to be transferred to a regular class in less than one full school term.

CLASSES FOR THE BLIND AND SIGHT-CONSERVATION CLASSES—It is now two years since this work was given over to the Bureau from the Department of Education. During entire time not one complaint has been received as to manner in which work has been conducted, but we have had many expressions of opinion as to excellence of work done and results obtained. All pupils in these classes have been re-examined and recommendations made concerning assignment to other classes. Classes were prescribed and other necessary treatment was obtained.

Medical inspectors and nurses now refer to our clinic for special examination all children whose vision is 20/70 or less and who fail to obtain glasses, for purpose of determining whether they are suitable cases for sight conservation classes, it being understood that every effort has been made previously to see that these children obtained proper glasses. Many more children have been recommended for these classes than Department of Education has been able to care for. Quite a number have been withdrawn and reassigned to their regular classes because of improvement of vision. Exceptional results have been obtained in treatment of corneal opacities with galvanic current. Trachoma has continued to yield to bichloride rub treatment and this plan is now accepted as most suitable treatment for greatest number of these cases. Many backward children with defective vision have had eyes examined, glasses prescribed and have then shown immediate improvement in school work, permitting rapid advancement from class to class. The field for this work is large, and it is felt that with gradual diminution in number of cases of trachoma, the oculists in clinics will be able to devote more time to refraction work.

Eye Clinics—Ten eye clinics continue in operation. The number of children referred for treatment of contagious eye diseases has decreased, leaving medical inspectors more time to devote to refraction. However, the amount of contagious eye diseases work is so great that to relieve the situation it will be necessary to distribute the follow-up work after treatment to various medical inspectors at schools. The need for supervision of a technical character has become more apparent each year and a supervising oculist should be appointed.

The object of eye work as conducted by the Bureau among school children, is detection and treatment of all contagious eye diseases, detection and correction of refractive errors, and supervision and treatment of partially-sighted and blind children.

TREATMENT OF CONTAGIOUS EYE DISEASES BY MEDICAL INSPECTORS—It has been felt for some time that medical inspectors should keep under supervision and treat cases of a mild trachoma and follicular conjunctivitis. With the idea in mind, work of instructing them in treatment of these conditions has been continued and now a greater percentage of these cases can be treated at schools, saving time formerly spent in traveling to clinics. The time necessary for treatment and supervision of the few cases existing in each school should not materially interfere with work of medical inspector.

HEALTH SUPERVISION OF CHILDREN IN CLASSES FOR CRIPPLED—The Department maintains fifty-five special classes where crippled children may be taught under more favorable conditions than are available in regular classes. With the extensions of activities of the Bureau in giving closer supervision to health of special types of children we were asked by Department of Education to allot more time of medical inspector and nurse to this work.

All cases referred by Department of Physical Training of Department of Education are promptly followed up and every effort is made to secure proper apparatus to correct or alleviate existing defect. Visits to clinics with children are made by nurses when necessary.

DENTAL CLINICS—There have been many interruptions in the bureau's dental service during the year, due principally to war conditions. That has necessitated much additional training by supervising dentist in order that quality might be kept to standard and work performed in uniform manner.

The dental clinics are so few and demand for their service is so great, that it has become increasingly difficult to confine ourselves to purely preventive work, and it has become more and more necessary to divert the dentists' time to relief of acute conditions, particularly in applicants for employment certificates and children suffering from cardiac diseases and malnutrition.

The need for more dental clinics and their value as shown by results obtained in department's clinics, has led outside agencies to establish about fifty so-called "volunteer" dental clinics where treatment is provided free, except that a nominal charge is made for material. Many plans of work have been tried in these volunteer clinics, but comparatively few of them are successful or continue for any great length of time. Repeated application has been made for services of school nurses and it has been most difficult to secure co-operation from school authorities while refusing to permit the nurse to act as helper to these volunteer dentists.

DENTAL HYGIENISTS—With recent employment of three dental hygienists it has been possible to begin this important work. These women were assigned to P. S. 21, Manhattan, and kept under close supervision of supervising dentist for a short time. Rapid progress was made in cleaning teeth of children of this school.

Division of Employment Certificates.

The Division is charged with issuance of employment certificates to children between fourteen and sixteen years of age and issuance of "over age" certificates to minors over sixteen years old.

The unprecedented rush for employment certificates during January, 1917, was due to amendment of Child Labor Law, effective February 1, 1917, which requires graduation from elementary school for the child between fourteen and fifteen years of age. In absence of this change it is safe to assume that a very considerable increase would have occurred in number of children applying for certificates. This change in law will effect a reduction of about twenty per cent. in total certificates granted in 1917, due to scarcity of labor caused by war and consequent removal from the home of wage-earning members to join the military forces. There is no more real necessity for these children to leave school now than formerly. Application for relief can be made to Civilian Relief Committee of Red Cross Organization, the purpose of committee being to maintain, as far as possible, the accustomed standard of living for families whose members have gone to war, and this committee will grant scholarships where necessary. In addition, the government has made provision for dependents of fighters, but a certain pride exists among different classes which precludes acceptance of assistance from relief organizations.

Office of Superintendent of Nurses.

There have been fifty-two resignations of nurses during 1917 and twelve nurses have been called for Red Cross duty. This has meant a constant change in personnel of work of school medical inspection and baby welfare, and has necessitated much additional educational work to fit nurses for their new duties.

Various lectures have been given through courtesy of physicians connected with Willard Parker Hospital and Good Samaritan Dispensary.

At various school clinics new nurses have been instructed in diagnosis and treatment of trachoma and other contagious eye diseases, the general principles of refraction and early symptoms. They have also received instruction in dental hygiene with particular reference to educational work among children. The nurses have also made numerous visits to open-air classes for purpose of receiving instruction and to the classes for crippled and blind. Lectures to them have been delivered at Post-Graduate Hospital on cardiac diseases with special instruction as to care and treatment.

The office of Superintendent of nurses has, during the year, arranged for sending 252 children to various fresh-air homes which have placed their facilities wholly or in part at disposal of the Department. Various funds have been turned over to the bureau for use in special emergencies at discretion of Superintendent of Nurses.

A large number of nurses from other cities and countries have been enabled to observe the nursing procedure of the Bureau and have stayed for periods ranging from one day to a month to acquaint themselves with technique of work.

BUREAU OF FOOD AND DRUGS.

The functions of the Bureau are enforcement of all laws relative to cleanliness and use or sale of poisonous, unwholesome, deleterious or adulterated drugs, medicines or food, and necessary sanitary supervision over production, transportation, handling and storage of foods.

The functions are divided as to Milk, Food, Drug, Meat, and Chemical.

Summary of Activities During 1917.

A complete revision of milk regulation was made, the basis for regulations being materially changed, because it did not sufficiently emphasize important factors in production of clean milk. The bacterial content of milk is now emphasized as one of controlling factors in determining under what grade milk is produced, pasteurized, transported or delivered.

The amount of unwholesome food condemned by the Department continues to be high. The bureau has therefore inaugurated practice of ascertaining in each instance the reasons for spoilage and bringing facts to attention of interested parties with a view of eliminating such wastes in future.

The scope of drug work has been extended and more intensive inspection has been made of drug stores. It was necessary to condemn large quantities of crude drugs which had become contaminated and unfit for use.

During the year for the first time in history of the city horse-flesh was permitted to be sold for food purposes. Approximately 153,252 pounds were passed as fit for human consumption. Regulations governing slaughter of horses and sale of horse-flesh were adopted and sale of this foodstuff was surrounded by every safeguard.

The Director of the Bureau was made a member of Federal Milk Commission; on several occasions services of inspectors of this bureau were requisitioned by U. S. Quartermaster's Department to assist in inspection of food supplies for the Army; the bureau assisted in two surveys of food supply in hands of all retail food dealers for Department of Agriculture; special studies were made of dehydration of food; an analysis of food waste problem was made and a table prepared showing how, where and why food was wasted. This table attracted considerable attention throughout the country and was reproduced by the British Ministry of Food.

Division of Food Inspection.

This division deals with all foods excepting milk and meat. Its staff consists of eighty men.

Conservation of Foodstuffs.

During the year the inspectors have done much to conserve and salvage partly spoiled foods abandoned by consignees or owners for reasons that cost of overhauling would amount to more than value of food saved. In every instance where arrangements could be made, such partly spoiled foodstuffs were turned over to charitable organizations where salvaging was carried on with little or no overhead expense.

New Types of Establishments Put Under Permits.

All hotels, restaurants and ice cream establishments were put under permit. 7,000 restaurant and 1,200 ice cream manufacture permits were issued.

OYSTERS.

A study was inaugurated to determine amount of heavy metals present in oysters. This study had not yet been completed as facts brought forth indicate advisability of establishing an arbitrary standard of maximum allowable amounts of heavy metals in oysters.

The procedure requiring growers to clearly mark on all containers "point where oysters are grown, name of shipper, date of harvest and date of shipment" was rigidly enforced, with result that source of supply is well known and exclusions can now be enforced. This procedure has been found invaluable in checking typhoid cases. During Fall months, oysters from East Rockaway, L. I., Freeport, L. I., and Maurice River, N. J., were excluded from sale because of high bacterial content, resulting from floating in polluted waters.

ENFORCEMENT OF COLD STORAGE REGULATIONS.

Periodic raids were made in retail stores to determine whether or not cold storage eggs and other products were being represented to consumer as such. The number of violations were relatively small.

WOOD ALCOHOL.

A number of raids were made to ascertain whether or not methyl alcohol was being used and sold in spirituous liquids, and in only one instance was it found present in any such product.

Division of Milk Inspection.

The functions of the Division are to enforce, through inspection, regulations governing production, handling, pasteurization, labeling and distribution of milk, skimmed milk, cream, sour cream, condensed milk and condensed skimmed milk (sold in bulk) offered for sale in New York; to investigate communicable diseases as they relate to this milk supply; to promote physical examination of milk handlers; physical examination and tuberculin testing of cattle producing various grades of milk; to collect samples of milk, skimmed milk and cream for chemical and bacteriological examination; to investigate and report upon citizens' complaints concerning the milk supply.

The reorganization of the Division, begun at end of 1916, has been completed. The country territory has been re-districted and number of sources of supply to be inspected have been made as uniform as possible.

QUALITY OF MILK.

Of total number of milk samples collected for chemical examination 11% was found to be adulterated. Of cream samples 14% was adulterated. In three cream samples starch had been added to the product. This is the first time in several years that such adulteration has been attempted.

VETERINARIAN'S EXAMINATION OF DAIRY COWS.

Since January 15, 1917, all dairy cows entering this City have been checked with tuberculin test charts accompanying them and official identification cards for each animal have been issued to dairymen purchasing them. All cows located at the 90 dairies operating within the Greater City have been physically examined by a Department veterinarian at regular intervals and all tuberculin tests conducted upon certain of these animals by private veterinarians have been officially supervised. As a result 224 animals reacting to tuberculin test were slaughtered while 1,000 others ordered tested were removed from herds, at choice of dairyman, and disposed of as beef. In addition 200 cattle, found upon superficial examination to have other diseases, were segregated from milking herds and majority of these were eventually slaughtered. In country districts inspectors were detailed to check physical examination conducted upon dairy cows by private veterinarians. In several cases it was found that either no examination had been made or certain irregularities were committed. In all such instances the certificates of offending veterinarians were rejected and cattle were re-examined in regular manner by another veterinarian.

Milk-borne Typhoid Fever.

One milk-borne outbreak of typhoid fever occurred during 1917. The milk was apparently infected by a driver who had a wife and daughter ill with typhoid fever at home.

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Sale of Skimmed Milk Legalized.

Actuated by same reasons, the Department seconded efforts made to have existing Agricultural Law amended to legalize sale of skimmed milk. Accordingly, this was done on May 17, 1917, and immediately thereafter the Sanitary Code and Rules and Regulations pertaining thereto were amended and revised.

Division of Drug Inspection.

The functions of the Division embrace the registration of patent and proprietary medicines as provided by Section 117 of Sanitary Code: Inspection of drug stores and drug establishments relative to quality of drugs and sanitary condition under which these are handled; placing of drug addicts in institutions as provided by Amended Public Health Law; dispensing of narcotic drugs to drug addicts under certain conditions; enforcement of all sections of Sanitary Code relative to drugs and patent medicines.

Since September 4, 1917, the field force has consisted of three inspectors, one of whom is a physician and another a pharmacist. This force is entirely insufficient to make certain that drug stores of the City are kept in a suitable, satisfactory condition.

Patent Medicine Registration.

With reference to Section 117 of Sanitary Code, which provides for registration of patent and proprietary medicines, a test case is now before the Courts to determine constitutionality of this section. The case has been heard by Appellate Division of Supreme Court where an adverse decision has been rendered, the section being declared unconstitutional. An appeal from this decision has been entered and case referred to the Court of Appeals.

Sanitary Condition of Drug Stores.

A survey is being made of drug stores in various sections to determine existing sanitary conditions. Sufficient progress has been made to clearly indicate that drug stores are far below requirements of this department. These facts have been brought to attention of the drug trade through departmental publications, trade publications, representatives of pharmaceutical associations, etc., and as a result many progressive pharmacists have met the situation in a spirit of co-operation.

Examination of Crude Drugs.

This survey included examination of herbs, roots and crude drugs generally. It was found that pharmacists, as a rule, do not exercise proper care in protecting drugs and medicinal product from contamination. Many lots of drugs were found contaminated with mouse and rat excreta, dust, worms and other foreign matter and in such condition as to render them unfit for any medical purpose. As a result a large amount of spoiled and otherwise unfit drugs were destroyed. In every instance the dealer was notified that a repetition of offense would result in prosecution.

Sterilization of Containers.

The survey revealed the fact that containers used for such products as citrate of magnesia are returned to druggists to be used again. These bottles are often kept in rooms of patients from communicable or contagious diseases. In many instances druggists did not have proper or adequate facilities for cleansing or sterilizing these bottles. Notices have been sent to the drug trade advising that proper facilities must be provided for cleansing and sterilizing the type of bottles referred to.

Drug Addicts.

The so-called "Whitney Narcotic Law," which became effective August 1st, placed many added responsibilities to this division and provided for placing drug addicts in institutions for proper care and treatment where voluntary request is made.

Since this law became effective, applications for care and treatment were received from 22 females and 115 males. One hundred and two patients have been discharged as sufficiently treated.

A Case of Gross Fraud.

Samples of a drug sold as quinine sulphate U. S. P., bearing label of a responsible drug concern, were submitted for analysis and the product did not conform with requirements of United States Pharmacopeia. An investigation found that a druggist had deliberately sold this product knowing it was not that of the manufacturer, and that the product was highly adulterated. He was arrested and charged with violating Section 116 of Sanitary Code and was found guilty, fined $500 or 30 days in City Prison.

Disposition of Several Arrest Cases on Patent Medicines.

Many labels and other printed matter relating to patent and proprietary medicines were examined, and where false and misleading claims were made for the medicinal value, manufacturers were given opportunity to modify statements, so that their preparations would conform with requirements of Sanitary Code. As a result, claims relating to many products have been greatly modified and they are now legally sold. However, where evident that manufacturer of a product was intentionally making false or untrue claims, facts were submitted to the courts. A number of such cases have been successfully prosecuted.

Neosalvarsan.

Several fraudulent preparations purporting to be Neosalvarsan were discovered by inspectors, an account of which was published in the Weekly Bulletin.

Division of Meat Inspection.

The functions of this division are to make ante- and post-mortem inspection of all cattle and horses slaughtered under municipal inspection, also to make post-mortem inspection of all country dressed carcasses brought into the City.

HORSE-FLESH.

The most important feature of the year was the establishment of an abattoir for slaughtering horses for human consumption. Horses can only be slaughtered for food purposes under special permit granted by Board of Health and subject to provisions thereof. The slaughter house is operated under same sanitary regulations as cattle slaughter houses. Only such horses are permitted to be slaughtered as are found to be free from glanders as shown by tests.. Horse-flesh is permitted to be sold in butcher stores operated under permit. There are five such stores. There is a constant demand for horse-flesh and supply is inadequate for the demand. During the year approximately 153,252 pounds was passed as fit for human consumption.

INSPECTION OF COUNTRY-DRESSED CARCASSES.

During the year the Sanitary Code has been amended to provide that all country dressed carcasses not slaughtered under official inspection shall be shipped to the city with various vital parts attached to carcass by their natural connections. This provision was enacted to prevent the veterinarian, in a localized condition, from condemning the entire carcass. The change in this regulation has resulted in saving a considerable amount of meat, which, under former regulations, would have been condemned.

Chemical Laboratory.

The work consists in examination of foods and drugs with a view to preparing evidence for court action in cases of non-conformity to regulations of Sanitary Code of the Department.

FOOD ANALYSIS.

Types of goods have been examined including all varieties found in the City. The principal new features related to oysters from polluted sources and gelatin. The oyster work consisted in examination of oysters for poisonous metals and coal tar colors and was carried on in collaboration with New York State Fish and Game Conservation Commission.

The examination of gelatin consisted in examining for poisonous metals and differentiation of edible gelatin from glue. This differentiation has never been satisfactorily accomplished and is still under way in this laboratory.

The results of this year's work have made more apparent that suitable food standards should be adopted by Department of Health in order that work of the laboratory may be of greatest practical value.

Many states have adopted in toto, and some in part, the standards under which the Department of Agriculture works. Acceptable food standards would also be of benefit to manufacturers in compounding and labeling. Ice-cream may be cited as example of an important food that may vary greatly in composition and over which the Department has no control, except of a sanitary nature.

PROPRIETARY (PATENT) MEDICINES, PRESCRIPTIONS, CRUDE DRUGS, ETC.

Prescriptions and pharmaceutical examinations to check accuracy and honesty of pharmacist have been carried out as a result of a definite program arranged with the Division.

RESEARCH WORK.

Members of Chemical Laboratory have worked on and contributed to scientific literature, methods of identification of added water to milk, identification of mixtures of fats with especial reference to identification of adulterated butter and differentiation of malted milk from malt and milk. A modified and practical method for determination of lead in urine was worked out for samples submitted by Division of Industrial Hygiene.

BUREAU OF LABORATORIES.

The work of the Bureau has been carried on under seven divisions, namely, Administration, Media Preparation, Diagnosis, Microbal Sanitary Examinations, Production of Serums and Vaccines, Applied Therapy, Special Investigations.

The complete volume of work so far as indicated by figures, is recorded on special forms and filed weekly, quarterly, and yearly in the Division of Administration. A condensed report is sent weekly to the Deputy Commissioner.

There has been a general increase in laboratory work along lines developed during past four years: The serological examinations for venereal diseases have shown greatest increase. These were started in fall of 1913 and passed the 100,000 mark during the year.

Bacterial counts of milk specimens have been used in ever increasing numbers as it became demonstrated that in this way methods used during milking at farms could be gauged better than through ordinary inspections.

The output of laboratory products has been greatly increased on account of war needs. Much tetanus antitoxin, and serums for pneumonia and meningitis, that could be spared, have been used by the armies either in Europe or America.

Methods for detecting typhoid carriers have been greatly improved and in cooperation with Division of Industrial Hygiene, the majority of persons connected with handling of food have been examined.

The active immunization of infants and children against diphtheria, started in 1915 and continued throughout 1917, has given very valuable results and will probably become a very important method of preventing this disease.

At present, we are actively at work trying to rid soldiers of meningitis germs which a number are carrying in their throats. This promises to be an important activity for remainder of the war.

Changes in Organization.

The Director divided the Divisions, other than those of Administration and Special Investigations, into two groups, placing the Divisions of Media Preparation, of Diagnosis and of Microbal Sanitary Examinations under immediate charge of the first Assistant Director; and the Divisions of Production and of Applied Therapy, under the second Assistant Director. The Division of Special Investigations is made up, as usual, of the investigative work of all divisions. The work on applied therapy of meningitis was transferred in part to the Bureau of Preventable Diseases.

The Division of Administration.

The functions of this division include general organization and executive control of all Divisions.

Changes in Procedure.

(1) The new system of bookkeeping which the Department of Finance has been trying to introduce during the whole year is only being partly tried out. If fully adopted it will require at least one more clerk for this Bureau.

(2) Several needed improvements have been started in laboratory buildings, namely, those required to increase gas pressure, to provide new animal rooms, new filtering and bottling rooms, and new clerks' quarters.

(3) All living microorganisms sent out by this Bureau (over 1,200 specimens yearly) are under close supervision of the first Assistant Director and are sent out only in accordance with state law and state board of health regulations.

LIBRARIAN'S REPORT.

Number of volumes, 2,800.

Number of pamphlets, 5,800.

Number of current medical journals subscribed for, 32.

Books are arranged on shelves by subjects and authors with subject cards for each article. Journals are carefully looked over and important subjects in which laboratory workers are interested, are noted on cards and filed. Pamphlets are arranged by authors, put in folders and filed in cabinets. Author and subject cards are made for each.

Division of Media Preparation.

The importance of work of this Division is shown by its immense output as indicated by records.

A number of problems of practical application are being carried on regularly in connection with media work. Among the more important activities resulting from such work was the routine preparation, during 1917, of *Martin's liquid peptone* for production of diphtheria and tetanus toxin broth. The amount prepared was 1,308 liters. This saved not only purchase of 50 pounds of peptone in powder form, but also purchase of 2,616 pounds of meat. This is due to fact that liquid peptone derived from pigs' stomachs furnishes also one-half required meat basis for broth. Cost of the pigs' stomachs was slight—less than $35 for year, whereas Witte peptone, even if obtainable, had risen from $3.80 to $10 per pound. The value of meat saved, at contract price of 25 cents per pound, was $654. The additional labor required for preparation of the Martin's peptone has been carried by same force of workers in the Division in spite of fact that total number of liters of media prepared in 1917, has exceeded total for 1916 (10,593 liters) by 1,270 liters.

Other improved methods are, adoption of paper pulp in Buchner filters and use of suction for filtering agar for milk work, without previously clearing with eggs.

Apparatus—All work has been assisted materially by installation of a large eight-hole gas flat which has doubled previous stove capacity. Two new hot filtration funnels of improved type have also been added.

The hot air sterilization equipment has been improved by installation on one oven of a device for automatic control of heat, together with a recording thermometer. This has proved so very satisfactory that three more thermo-regulating valves and recording thermometers are being installed on the three other ovens. During summer the method of introducing steam in the two autoclaves was changed so that the running time required has been reduced.

Co-operation with schools of New York has been continued in supplying them with agar for use in class-room work in sanitation and hygiene. 32 liters of agar were disbursed in this way.

Division of Microbal Sanitary Examinations.

The work of this division includes all sanitary examination of milk, of water and of disinfection tests, and microbal examinations of foodstuffs and of water.

MILK EXAMINATIONS.

During the first six months of 1917 there was an average of 377 samples of milk examined per day for five days of every week. The laboratory was prepared to handle from 400 to 450 samples per day and on many days it received over 450 samples, occasionally over 500. It seems impossible for work of milk inspectors to be so arranged that a constant number of samples be sent for examination every day.

WATER AND OYSTER EXAMINATIONS.

During the year this division examined 642 specimens of water, divided among the five Boroughs as follows: Manhattan 263, Bronx 76, Brooklyn, 171, Queens 61, Richmond 71.

In addition to these there were eight examinations of sea-water and seven of wells and springs for the U. S. Coastal Air Station at Montauk, L. I. One hundred and ten oyster examinations also were made.

Division of Diagnosis.

This division is divided for topographic convenience into two divisions, namely, Direct Diagnoses and Indirect Diagnoses. The Direct Diagnoses include those more definitely-managed diagnoses carried on in a routine way in Laboratories at headquarters, while Indirect Diagnoses include those requiring a more varied technic best managed in Laboratories at 16th Street.

Many special diagnoses were made, including various infections.

Work on diagnosis of tumors has been carried on with co-operation of Professor Symmers of New York University. One hundred and thirty specimens were sent in for examination, and 19 malignant new growth were diagnosed.

Division for Production of Serum and Vaccines.

All products during the year have been subjected to extra tests for purity as a war measure.

The demand for pneumococcus serum has been greater than the supply. More horses were obtained, so there are now fifteen either producing or being prepared to produce serum. Much of this will go to the Army and Navy.

The demand for antimeningitis serum has continued to take all of the supply and the horses have been increased to three times the number formerly used. Sixteen are now producing, or will soon produce, the serum.

COWPOX VACCINE.

There have been several large out-of-town and state orders for vaccine virus during year which have readily been filled.

An improvement in recording history of vaccine virus was effected by use of a new "Human Crust Card." This gives names of children from whom crusts are taken, number of the virus used with date of vaccination and date of collection of crusts. In addition, there is a space for recording other data.

Another new history card introduced is the "Clinical Test Card." Heretofore no record was kept in the laboratory of names and addresses of children vaccinated. By this new card any complaint of sore arms, etc., that may need investigating can be readily handled. These cards are filed numerically, according to virus number, and are an index also to potency of virus, which is recorded by plus or minus signs so that, at a glance, the success or failure of a virus is apparent. The use of these cards does away with a large, clumsy volume in which were pasted small data slips.

The method of recording bacteriological tests of virus has been rearranged so that records are more clear and compact.

Division of Applied Therapy.

The number of consultations held with physicians and hospitals by telephone, letter or on request by visits to patients, in regard to use of serums and vaccines, has continued to increase.

The work done by Meningitis Division received a considerable impetus from the work last summer, so that we are now consulted with regard to nearly twice as many cases as in 1916. The number of cases of epidemic meningitis has been somewhat higher than in previous years, but there is no particular localization, and increase is not sufficient to cause apprehension. The cases have not been especially severe and have been yielding very well to treatment.

STATISTICS OF PATIENTS RECEIVING PASTEUR ANTIRABIC TREATMENT.

Patients treated less than one week, pending diagnosis in biting animal, or refusing to continue after less than one week's treatment, are not included in this table.

Mortality statistics are based on number of persons bitten by rabid animals and not on total number treated. Muzzling ordinance in force.

1917.	PATIENTS TREATED.	BITING ANIMAL PROVED RABID.	PERCENTAGE OF POSITIVE CASES.	MORTALITY.			
				GROSS.		CORRECTED.	
				Total Human Rabies Deaths Among Patients Treated.	Percentage of Cases in which Biting Animal was Rabid.	Deaths 15 Days or More After End of Treatment.	Percentage of Cases in which Biting Animal was Rabid.
In City	175	48	27.4	0	0.0000	0	0.0000
Out of City	239	230	96.2	1	0.0043	1	0.0043
Total	414	278	61.8	1	0.0043	1	0.0043

Special Investigations.

The problems under investigation during year have been carried on partly in close relationship with routine work of various divisions and partly as independent work.

Meningitis Serum—Comparative work on methods of immunizing horses has led to results in economy of production of vaccine and more rapid production of potent serum and a longer period of production, that is, life of the horse. Methods of standardizing serum have been improved and additional tests added so that results obtained can be compared with those of other laboratories. Work has been undertaken to differentiate strains occurring in America so that serum can be made more truly polyvalent and standard strains can be selected for testing the serum.

Pneumococcus Serum—The production of pneumococcus serum has been improved along same lines so that we hope, shortly, to be able in a considerable proportion of horses to produce serum during third month of injection. The methods of injection will also reduce amounts of vaccine necessary for horses.

The number of horses on each of these products has been quadrupled since beginning of the War.

Pure Vaccine Virus—A study of addition of brilliant green to vaccine virus has shown that this, in appropriate dilutions, has no effect on potency of the virus but purifies the virus more rapidly than carbolic and glycerine alone. In emergencies, this method could be employed and vaccine distributed within a week or ten days after preparation.

Preventive Inoculations Against Epidemic Cerebro-spinal Meningitis—In co-operation with medical authorities at Camp Upton, the laboratory supplying meningococcus vaccine will furnish sufficient amount to determine efficacy of such vaccination in prevention of cerebro-spinal meningitis.

More Specific Streptococcus Serum—Work on the grouping of streptococci is being continued as a basis for the production of streptococcus serum.

Common Colds—Work on common colds has shown that, in some instances, colds are due to pneumococci of the fixed types, and such colds must be looked upon as a source of contagion for development of pneumonia. Methods of testing sputum for type of pneumococcus are being improved and it is hoped that, in near future, the specimen can be tested for type while messenger waits for report and the serum for the case if sputum should contain type 1 pneumococcus.

Fecal Examinations for Carriers—Methods of fecal examinations have been still further improved by increasing number of examinations per worker, with brilliant green medium. The number of positive results have been markedly increased so that where over 100 positive results are obtained at present, only 70 to 75 tests have been successful.

Paratyphoid Differentiation—Work on paratyphoid differentiation has been continued and added evidence shows conclusively, that paratyphoid fever in man is a human disease transferred from man to man and is not due to infection by paratyphoid types from lower animals.

Typhoid and Triple Vaccine—All typhoid and triple vaccine is being tested as to its antigenic qualities. This has shown definitely that our vaccines have been of high standard.

Diagnostic Sera for Typhoid and Paratyphoid—We have produced a large amount of diagnostic sera for isolation of typhoid and paratyphoid, which has been helpful to laboratories and laboratory units in Federal Government.

Meningococcus Carriers—Comparative work on methods for detection of meningococcus carriers has led to development of a much shorter method founded upon use of an improved medium and of microscopic slide agglutination.

Treatment of Meningococcus Carriers—The application of the dichloramine preparation to the clearing up of these cases is being carried on with promising results.

Anthrax Investigations—Rules and regulations for handling of hides, furs and materials made from these, so as to protect from anthrax the employee and the buyer of manufactured goods, have been prepared by the Department. To gain knowledge of practical details as to disinfection, a large number of animal and cultural experiments have been carried on.

Goats' Milk Therapy—The production of goats' milk has been continued and has been supplied to three hospitals. Final report will be made on first of January, and experiment discontinued. Goats' milk has shown itself to be as good as cows' milk, and for certain infants preferable. The expense, however, of producing it prevents it being a practical business, unless demand increases.

Toxin Antitoxin Immunization—Active immunization of children against diphtheria has been energetically carried on. This has been introduced into a number of schools and in most children's institutions. It has proven a permanent immunization for at least three years. It has now been started among infants in institutions and at milk stations.

Follow-up Tetanus Work—Various cases of tetanus treated in hospitals during the year have been reviewed to get further knowledge on improvement due to use of intraspinal injections. Results have been good. The total recoveries are about 70 per cent.

Study of Complement—Practically every day for past two years experiments upon complement have been made in attempt to rule out the variability of that reagent. We have succeeded in perfecting a method by which we obtain uniform results from day to day with sera and antigens of known titre. This has enabled us to find accurate titres of therapeutic immune sera more quickly than was possible with old method.

Improved Methods for Complement Fixation Diagnostic Tests—With the Wassermann test we have found, by making comparative tests with varying periods for fixation, that the McNeil method of four hours ice-box fixation has given best results in all our tests. With the gonococcus test many methods, varying amount of reagents, time for fixation, etc., have been tried. The McNeil combination of reagents with fixation for two hours in water bath at thirty-seven degrees centigrade, has given best results. This long time in water-bath does not injure the complement, as is shown by complete hemolysis in controls of hemolytic system and of the anticomplementary doses of antigen and serum.

Study of Tuberculosis Complement Fixation—Up to present time this work has been centered upon preparation and standardization of a suitable antigen and diagnostic tests upon 175 cases. Dr. Keller of Polyclinic, Dr. Sayre of N. Y. Medical College Clinic, Dr. Meyer of the West Side German Hospital, Riverside Hospital and Otisville Sanatorium and Dr. Bullowa have furnished the sera for these tests. This work is still in the experimental stage, but, in a short time it is hoped to be possible to say something in regard to its value. The antigens prepared are stable, are not anticomplementary, and give very clear-cut reactions. However, in some cases negative reactions have been obtained where clinical diagnoses were positive. It is true that other workers on tuberculosis complement fixation have given more or less convincing explanations of these negative reactions; but we hope to be able to reduce their percentage by improved methods. So far as we have been able to check histories of cases, we have obtained no false positive reactions.

Etiology of Poliomyelitis—Examination of the brains from 15 cases of poliomyelitis showed streptococci present in about 25 per cent. The brains from 15 monkeys which had been inoculated with polio virus showed the presence of streptococci in the same proportion.

In 25 per cent. of all cases small anaerobic organisms, more or less similar to those described by Noguchi, were isolated. These probably represent two distinct varieties and were isolated from human brains, cultured just after autopsy, and also from a number which had been preserved in cold storage for periods varying from six to ten months. Cold storage preservation offered no obstacle to the cultivation of streptococci from these brains.

Chronic Lung Cases—The study of organisms found in sputum of cases of chronic lung disease has been carried on with result that no sporothrix, streptothrix nor yeast has been found to have a constant relationship.

Diagnosis of Glanders—It was found that with a definite agglutinable strain of B. Mallei, and the proper medium, that agglutination test might be shortened to two hours. Attempts were made to make comparative studies of agglutination complement fixation and ophthalmic reaction controlled by autopsies. As lesions found in supposedly glandered horses are not always characteristic of glanders, section work is being undertaken with view of finding characteristic lesions under the microscope.

Milk—During the year the Department has changed its methods of appraising quality of milk. Instead of a numerical score card, it has established minimum requirements. In making these changes, a number of bacteriological investigations were made which corroborated work of others in showing that methods were more important than equipment. In making a bacterial standard for milk in country, investigation established the fact that shipment of samples from country to city somewhat more than doubled the colony count. It was necessary, therefore, to make ruling that bacterial counts in the city should be halved when considered for purpose of estimating bacteria in milk while still in the country.

Serum Work in Poliomyelitis—Serum from the first horse inoculated showed some neutralizing power for a highly potent polio virus. This horse unfortunately died, the cause of death being unknown.

Another horse is being inoculated, and while first bleeding at three months failed to neutralize the potent virus, serum from a second bleeding, three months later, has neutralized the polio virus in first test made.

Intraspinal injections of serum from first horse into monkeys infected intracerebrally with potent polio virus have yielded no encouraging results, even though intraspinal treatment was instituted as early as one hour after intracerebral injection of the polio virus.

Protection Experiments in Poliomyelitis—Attempts were made to produce immunity in several ways by subcutaneous inoculation in monkeys tested by an infecting intra-cerebral dose of polio virus. The experiments are being continued.

BUREAU OF HOSPITALS.

The Bureau is responsible for care and quarantine of patients admitted to hospitals of the Department. It maintains four hospitals for infectious diseases, one each in Manhattan, Brooklyn, Bronx and Queens, and a Sanatorium for tuberculosis at Otisville, N. Y. It also maintains five ambulance stations, one in each borough, for transfer of patients to hospitals in boroughs, a steamboat service for interborough transfer of patients, and a ferry service to North Brother Island, the site of Riverside Hospital.

The Bureau extended its hospital service for pertussis, and it is believed that patients treated, whose home conditions were not of a character to allow proper care, resulted in a lower mortality rate than would have been otherwise obtained. Most of these cases were complicated with broncho pneumonia and other complications that made it more desirable to treat them in hospitals than in homes. Following out the policy of co-operating with Mayor's Defense Committee, the Bureau has cared for 894 sailors and 226 soldiers transferred to it for treatment for contagious diseases. This service has not only been of benefit to the Government but has resulted in further studies in cause and transmission of diseases treated, that bid fair to aid in prophylaxis in further conduct of such infections in army camps.

Willard Parker Hospital—To December 20th this hospital treated 5,028 patients.

In 1917 this hospital furnished the following items to medical education. Regular clinics have been given to students of Columbia University, Cornell University, Post Graduate Medical School, New York University and Women's Medical College. These clinics being held by Professors in this institution, who are members of Medical Staff of this Hospital. In addition there have been given special lectures to students of College of City of New York, Social Service Club of Grace M. E. Church, nurses of Department of Health, nurses of Teachers' College, Board of Directors of House of Mercy Hospital, Officers of U. S. Medical Reserve Corps and the U. S. Navy—Medical Reserve Corps—on subjects of isolation, control and administration as practiced in contagious disease hospitals.

The Medical Staff House and Nurses' Home has been completed and equipment is being received. The space behind new bulkhead has been completely filled in, adding about an acre to hospital grounds.

Riverside Hospital—To December 20th, this hospital treated 1,972 patients. During 1917 clinics were regularly held for students of Fordham University.

There have been completed, with exceptions of lighting fixtures, Pavilions 8 and 9, for tuberculosis, and the Venereal Disease Building, which may be occupied as soon as equipment is provided.

Kingston Avenue Hospital—To December 20th, this hospital treated 2,130 patients.

During year clinics have been held for students of Long Island College Hospital. Special clinics have been held on smallpox for benefit of diagnosticians and medical inspectors of Department as well as for its hospital staff.

There has been completed and made ready for occupancy with exception of equipment, Pavilion 3, and the New Kitchen Building.

Queensboro Hospital—To December 20th, this hospital treated 255 patients. In addition there has been established a clinic for treatment of Venereal Diseases.

The old stable has been razed, an addition built to disinfecting station from second-hand material taken from it. This extension gives adequate storage space and room for wagons, horses and ambulances.

Work on sewage disposal system has been completed up to a short distance from sewer into which it is to debouch and completion is waiting decision of authorities as to procedure in making connection.

Municipal Sanatorium—For tuberculosis—To December 20th, there has been treated in this institution 1,440 patients.

The Recreation Building has been completed and is being used. Shack 112 is ready for occupancy with exception of heating plant. There has been erected through an unknown donor a beautiful Catholic Church with seating capacity of 300. An addition to dairy is being built at cost of $10,000; three ice houses with capacity of 3,000 tons each, and equipped with modern hoisting machinery, have been built at western end of Bear Swamp and will furnish storage for sufficient ice for the institution. The farm crops were the greatest in its history.

The Division of General Administration.

During 1917 there has been prepared for publication rules and regulations governing all employees of the Bureau. Ambulance Stations have been reorganized and practice of sending nurses on ambulance calls has been made universal throughout the hospitals.

The number of medical men and nurses lost to service on account of the war has seriously interfered with the work. At no time in the history of this Bureau has there been such irregularity and delay in delivering foodstuffs for use of hospitals. Failures of contractors to supply food has seriously interfered with carrying out menus during the year.

BUREAU OF PUBLIC HEALTH EDUCATION.

The Bureau was established July 1, 1914, its members being drawn from other bureaus of the Department.

The following is a summary of the work performed by the bureau in 1917:

Activities of Director—Edited Weekly Bulletin; Prepared 82 typewritten press bulletins for newspapers; Daily interviews with newspaper reporters concerning Department's activities, and supplied information concerning them to writers of magazines, and for special articles, in Sunday newspapers; organized courses of instruction in Infectious Diseases, given at the department hospitals, for registered physicians in Greater New York. Also arranged for these courses, laboratory instruction and demonstration in chronic intubation cases; Prepared 4 new educational posters and 28 health leaflets; Edited and published 7 scientific Monographs and 13 Reprints, relating to Department's work; Co-operated with instructors in colleges and high schools in preparation of material for class instruction; Demonstrations of Department activities at headquarters, laboratories, baby health stations and tuberculosis clinics, for students and health workers; Gave short courses of lectures on health topics at Fordham University, New York University, Columbia University, College of the City of New York, and Long Island College Hospitals; Addressed meetings organized by various civic organizations, (Y. M. C. A.'s, Civic Forums, Evening Schools, Labor Groups, etc.); Prepared moving picture films showing Department's work in making antitoxins, vaccines, etc., for soldiers, mosquito extermination and food supervision; Poster contests, on health topics, at College of City of New York, Hunter College, and Washington Irving High School; Exhibit showing laboratory work of department, under the auspices of New York Microscopical Society at Museum of Natural History, and Demonstrators to explain exhibit to visitors.

Activities of the Assistant Director—Delivered 48 lectures on public health topics; Conducted campaign against fraudulent patent medicines and quacks; Assisted in preparation of cases prosecuted by Department against violators of Food and Drugs Act, and represented Department in Court.

Activities of Chief of Division of Exhibits—Prepared material and arranged exhibits for high schools, colleges, Y. M. C. A.'s, settlements and other public centers including present permanent exhibit and exhibits in various borough offices; Supervised taking photographs illustrating work of Department; Supervised up-keep and loaning of lantern slides and photographs; Assisted in preparation of various health posters and arranged placing of about 10,000 posters and health placards in schools, colleges, clinics, factories, mercantile offices, etc.; Took charge of Christmas entertainment and gifts provided for all Department's hospital patients; Supervised employes' lunch and rest rooms; Assisted in preparation of data for Keep Well Leaflets, and health talks.

Activities of Assistant Editor—Edited and wrote for Staff News,—Monthly Bulletins—Monthly Drug Bulletin and School Health News; Prepared 160 boxes exhibit material, and set of health pamphlets for classroom use in high schools.

BUREAU OF RECORDS.

ANALYSIS OF THE YEAR'S VITAL STATISTICS.

Population—The European war, by reason of the fact that it shut off immigration, and, during its early months increased emigration, had a very direct effect upon the City of New York, which recruits its population to a very considerable extent from countries abroad. Because of this effect the Department abandoned the method heretofore used in estimating yearly increase of population, and adopted the arithmetical method. Since then a further change has been wrought in population by withdrawal of men of military age. During latter part of 1917 about 75,000 men left the City for military duty. However, since these have been absent at most but half the year and many for a shorter period, the deduction to be made from estimate of population would be comparatively small, and would have but little effect upon the following estimates:

Manhattan	2,682,977
The Bronx	599,216
Brooklyn	1,975,801
Queens	379,696
Richmond	99,802
The City	5,737,492

Births—During 1917, the birth rate rose .10 above rate of 1916, and there was an increase of approximately 4,000 in total number of births reported—141,564 as compared with 137,644 during 1916. This increase was a reflection of an increase in marriage rate of previous year.

The total births reported in each Borough during 1916 and 1917 were as follows:

1916.		1917.
61,030	Manhattan	61,612
16,144	The Bronx	16,902
48,590	Brooklyn	50,468
9,543	Queens	10,050
2,447	Richmond	2,532

The Department is still vigorously enforcing the law which requires physicians and midwives to report births occurring in their practices, and about 99½ per cent. of all births occurring in the City are now reported.

During the year the call made upon the Bureau to transcribe birth records for draft purposes was tremendous, and it brought home to many citizens the importance of having births properly reported to this Department. The number of applications to record delayed certificates of births, increased considerably, and, because of conditions prevailing the Bureau determined to insist upon documentary evidence of birth accompanying every application.

Marriages—The marriage rate of the City increased from 9.78 in 1916, to 10.32 in 1917, equivalent to an increase of 4,500 marriages.

MARRIAGES.

BOROUGH.	1916.		1917.	
	TOTAL REPORTED.	RATE PER 1,000.	TOTAL REPORTED.	RATE PER 1,000.
Manhattan	31,735	12.05	33,609	12.53
The Bronx	4,080	7.08	5,026	8.39
Brooklyn	15,920	8.26	17,066	8.64
Queens	2,352	6.42	2,725	7.18
Richmond	695	7.10	784	7.86

Deaths—The death rate during 1917 was the lowest on record, falling .19 below rate of 1916. This decrease is equivalent to a saving of more than 1,100 lives. In other words, had rate of 1916 prevailed during 1917, there would have been 1,100 more deaths. This has been accomplished by steady, persevering work in every branch of the Department, and it is obvious as death rate is forced downward it becomes increasingly difficult to secure additional reductions. For the most part this reduction in mortality of the City has been among persons at beginning of life, and the most important reductions have been made in mortality from acute infectious and diarrhoeal diseases.

MORTALITY FROM CERTAIN IMPORTANT CAUSES IN 1917.

Population	5,737,492
Total deaths	78,575
Death rate	13.70
Total deaths under 5 years	18,265
Rate population under 5 years	29.9
Typhoid fever	229
Rate	.04
Malarial fever	10
Rate	.002
Smallpox	......
Rate	......
Measles	560
Rate	.10
Scarlet fever	120
Rate	.02
Diphtheria and croup	1,158
Rate	.20
Whooping cough	489
Rate	.08
Cerebrospinal meningitis	185
Rate	.03
Pulmonary tuberculosis	8,825
Rate	1.54
Other tuberculous diseases	1,317
Rate	.23
Apoplexy and Softening of Brain	801
Rate	.14

Bronchitis	789
Rate	.14
Pneumonia	11,051
Rate	1.93
Diarrhoea under 5 years	3,365
Rate on population under 5 years	5.5
Cancer	4,867
Rate	.85
Bright's and nephritis	6,727
Rate	1.17
Heart Disease	11,102
Rate	1.93
Puerperal diseases	651
Rate	.11
Violence	5,742
Rate	1.00
Deaths under 1 year	12,568
Rate per 1,000 per 1,000 births reported	89

Infant Mortality—There has been a splendid reduction in infant mortality. In measuring this, one must bear in mind that there is a very great amount of poverty and overcrowding in the City; that in many parts housing is still most insanitary; that, furthermore, there was up to time of the war an unending stream of immigrants arriving, so that task of educating them was never done, those who were educated to our health standards being continually replaced by others who were not. Again, the climate is most trying. In other cities that enjoy lower infant mortality rates, living and climatic conditions are far more favorable; a large proportion of their population occupy detached houses, the scale of real wages is higher and there is less ignorance.

The mortality in 1898 was 67.2 per thousand of estimated number of children under 5 years of age. In 1917, this rate fell to 29.9, or less than half what it was twenty years ago.

The mortality of acute infectious diseases, smallpox, measles, scarlet fever, diphtheria, whooping cough, has fallen during past twenty years. Indeed, during past five years there has been no mortality from smallpox. In measuring effects of this reduction in mortality, we must also consider the greater and really more important reduction in morbidity, because children who have escaped acute infectious diseases are healthier and stronger, and will grow into manhood and womanhood better able to withstand diseases of later life.

Tuberculosis—Pulmonary tuberculosis has been and is one of the important health problems, and it is most gratifying that the rate has been reduced from 2.36 in 1898, to 1.54 in 1917. There has been a corresponding reduction in mortality of other tuberculous diseases.

Typhoid Fever—The mortality of typhoid fever is a fair index of sanitary conditions of a city and its water and milk supply, since this disease is most often water-borne or milk-borne. In 1898, mortality of typhoid fever was 21 per hundred thousand, and in 1917 it was 4 per hundred thousand.

Respiratory Diseases—The death rate of respiratory diseases was .04 higher during the year than during 1916, due to prevalence of these diseases during early part of year. The very small increase is insignificant when considered in light of reduction made during past twenty years.

Cancer—During past twenty years the mortality of cancer has steadily risen in the City. Not only has total number of deaths increased, but the rate also. No doubt, a large percentage of this increase has been due to improved diagnosis, more careful certification of causes of death by attending physicians, and more persistent querying of physicians by the Bureau. Nevertheless, there probably has been an actual increase in deaths caused by cancer and it has been suggested as due to increase of population at ages when cancer makes its appearance.

During the year the Statistical Office has made a study of cancer mortality, results of which will be published shortly.

Violent Deaths—The yearly death toll from violence has always been considerable, and there has been but little change during twenty years. In 1898 the mortality from this cause was 1.12; in 1917 it was 1.00. In intervening years it has fluctuated between 1.30 and .87. Of the causes, the most important from a numerical standpoint are falls, street accidents, burns and gas poisoning. The prevention of death from these causes lies outside the province of the Department, but because of importance of the subject, the Bureau last year made a statistical study of street accidents, the most important conclusions of which were: The number of accidents caused by horse-drawn vehicles has decreased since 1907; street accidents caused by automobiles has increased, but the ratio of automobile accidents to automobiles operated has steadily decreased since 1908; the increase in pedestrian traffic in certain districts has been a most important factor in highway accidents.

Tabulation of Records, Bureaus of Child Hygiene and Preventable Diseases—During the year the Statistical Division took over the tabulation of records of the Bureaus of Preventable Diseases and Child Hygiene, and considerable headway was made in perfecting a plan to commence tabulation of contagious disease and tuberculosis reports for purpose of developing statistics that will show relation of age, sex, nativity, housing and other factors to incidence and mortality of these diseases. The fulfilment of this plan will be of material aid to the epidemiological work of the Bureau of Preventable Diseases. By increased use of electric counting sorters already installed it is planned to get out this additional and important work without increase of clerical force.

Intensive Studies of Various Health Problems—During the year the Bureau has made a number of intensive studes of various health problems and issued the following articles:

1. "Effect of Race Stock Upon Mortality." (Deals with effect of nationality upon mortality.)
2. "Third Illness Census." (Taken in Negro districts of City. Between 60,000 and 70,000 persons were successfully canvassed.)
3. "Survey of Highway Accidents in City of New York."
4. "Suicide Mortality."
5. "Suicides in New York City."
6. "Occupation and Mortality."
7. "Practical Uses of Vital Statistics as Displayed by Work of Bureau of Records of New York City."
8. "Longevity; An Article Dealing with Increased Expectation of Life."
9. "The Need of Standardizing Statistics of Child Caring Institutions."
10. "Tabulation of Mortality of Borough of Manhattan by Sanitary Districts."
11. "Proposed Method of Standardizing Statistics of Baby Welfare Stations."

TABLE

BIRTHS

MONTH.	TOTAL.	WHITE.		NEGRO.		OTHERS.		NATIVE PARENTS.	
		M.	F.	M.	F.	M.	F.	M.	F.
January.......	12,964	6,573	6,134	130	124	1	2	1,891	1,692
February......	11,263	5,674	5,371	112	102	4	..	1,655	1,491
March.........	12,459	6,229	5,978	119	126	3	4	1,872	1,731
April..........	11,441	5,752	5,439	127	119	3	1	1,947	1,959
May..........	11,141	5,531	5,374	104	127	3	2	1,597	1,589
June..........	11,442	5,756	5,445	126	106	6	3	1,690	1,662
July...........	12,364	6,230	5,848	152	130	3	1	1,873	1,670
August........	12,467	6,263	5,904	135	158	3	4	1,943	1,780
September.....	10,968	5,533	5,175	123	136	..	1	1,675	1,624
October.......	12,014	6,062	5,699	118	129	4	2	1,691	1,612
November.....	10,977	5,507	5,219	113	132	5	1	1,588	1,507
December.....	12,064	6,024	5,796	127	115	2	..	1,900	1,781
Total.....	141,564	71,134	67,382	1,486	1,504	37	21	21,322	20,098

No. 1.

REPORTED—1917.

Foreign Parents.		Mixed Parentage.		Unknown Parentage.		Attended by Midwives	Attended by Physicians.	Apparently Illegitimate.	Twins	Triplets.
M.	F.	M.	F.	M.	F.					
3,892	3,704	893	828	28	36	4,352	8,612	120	74	4
3,373	3,270	728	682	34	30	3,835	7,428	121	91	1
3,625	3,585	812	765	42	27	4,293	8,166	129	96	
3,103	2,810	800	759	32	31	3,577	7,864	128	80	
3,247	3,134	775	746	19	34	3,952	7,189	95	93	
3,375	3,145	798	724	25	23	3,667	7,775	122	84	1
3,640	3,549	850	737	22	23	4,270	8,094	115	112	1
3,588	3,543	845	727	25	16	3,937	8,530	110	105	
3,156	2,939	802	731	23	18	3,899	7,069	110	96	
3,595	3,355	868	832	30	31	4,060	7,954	146	124	
3,215	3,103	795	719	27	23	3,568	7,409	119	106	
3,404	3,304	821	803	28	23	4,115	7,949	125	49	1
41,213	39,441	9,787	9,053	335	315	47,525	94,039	1,440	1,110	8

TABLE No. 2.

BIRTHS BY NATIVITIES OF PARENTS.

COUNTRY.	CITY OF NEW YORK.	
	NATIVITY OF BOTH PARENTS.	NATIVITY OF MOTHER ONLY. MIXED PARENTAGE.
Austria-Hungary	10,377	4,175
Bohemia	246	135
British America	149	275
England	669	882
France	85	193
Germany	1,704	1,200
Ireland	4,752	2,211
Italy	28,989	887
Russia and Poland	24,099	2,669
Scotland	158	270
Sweden	567	321
Switzerland	44	65
United States	37,555	12,367
Other foreign	4,831	1,689
Unknown	......	......
Total	114,225	27,339

TABLE
MARRIAGES

DATE.	TOTAL.	WHITE.		BLACK.		CHINESE.		SINGLE.		WIDOWED.	
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
January......	6,241	6,000	6,005	239	235	2	1	5,684	5,703	477	428
February.....	4,962	4,794	4,798	168	164	..	..	4,582	4,592	332	306
March........	4,359	4,181	4,186	176	173	2	..	4,000	4,004	318	283
April.........	4,860	4,729	4,730	131	130	..	..	4,554	4,569	248	232
May..........	5,253	5,094	5,095	157	156	2	2	4,892	4,879	305	305
June..........	7,002	6,834	6,837	167	165	1	..	6,562	6,600	385	333
July..........	5,102	5,001	5,002	101	100	..	..	4,732	4,764	319	287
August........	4,045	3,933	3,934	112	111	..	..	3,808	3,824	192	175
September....	3,927	3,822	3,825	103	102	2	..	3,607	3,641	273	218
October......	4,728	4,510	4,519	216	208	2	1	4,333	4,366	344	288
November....	4,107	3,959	3,962	147	145	1	..	3,779	3,799	286	249
December....	4,624	4,488	4,488	135	136	1	..	4,297	4,286	279	274
Total. .·..	59,210	57,345	57,381	1,852	1,825	13	4	54,830	55,027	3,758	3,378

TABLE
MARRIAGES, BIRTHS, DEATHS

	TOTAL.	WHITE.		COLORED.		OTHER.		NATIVE PARENTS.		FOREIGN PARENTS.		PARENTAGE OF MIXED NATIVITIES.		PARENTAGE UNKNOWN OR NOT STATED.	
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Marriages..	59,210	57,345	57,381	1,852	1,825	13	4	26,684	29,418	32,526	29,792	.....	.....	.....	.....
Births......	141,564	71,134	67,382	1,486	1,504	37	21	21,322	20,098	41,213	39,441	9,787	9,053	335	315
Deaths.....	78,575	42,216	33,390	1,544	1,331	86	8	9,164	7,629	30,553	24,443	2,569	1,988	1,560	669
Stillbirths...	6,117	3,146	2,576	173	142	...	...	1,045	915	1,749	1,400	360	295	165	108

No. 3.

REPORTED—1917.

Divorced.		Native.		Foreign.		Religious Marriages.				Civil Marriages.
M.	F.	M.	F.	M.	F.	Catholic.	Pro-testant.	Jewish.	Ethical Culture.	
80	110	2,457	2,740	3,784	3,501	1,373	1,006	1,828	1	2,033
48	64	1,979	2,224	2,983	2,738	1,516	1,101	1,163	..	1,182
41	72	1,670	1,942	2,689	2,417	702	783	1,543	3	1,328
58	59	2,472	2,586	2,388	2,274	1,419	1,356	1,275	3	807
56	69	2,289	2,536	2,964	2,718	1,522	1,480	1,112	6	1,133
55	69	3,259	3,665	3,743	3,337	1,968	2,032	2,476	3	523
51	51	2,673	2,936	2,429	2,166	1,534	1,547	889	2	1,130
45	46	1,691	1,795	2,354	2,250	1,408	1,018	1,336	3	280
47	68	1,904	2,009	2,023	1,918	1,210	1,008	1,090	..	619
51	74	2,183	2,447	2,545	2,281	1,615	1,139	966	3	1,005
42	59	1,919	2,144	2,188	1,963	1,400	1,039	1,115	3	550
48	64	2,188	2,395	2,436	2,229	1,396	990	1,331	3	904
622	805	26,684	29,418	32,526	29,792	17,063	14,499	16,124	30	11,494

No. 4.

AND STILLBIRTHS REPORTED—1917.

Single.		Married.		Widowed.		Di-vorced.		Not Stated.		Months of Utero-gestation.										
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	1	2	3	4	5	6	7	8	9	10	Not Stat-ed.
54,830	55,027	......	......	3,758	3,378	622	805	....	....											
......	......	......	......	......	......	....	....	....	....											
21,143	13,963	16,947	10,844	5,299	9,803	66	72	391	47											
.. ....	.....	......	......	.....	....	....	...	....	....	5	19	99	314	470	562	781	715	2,515	322	315

Cause of Death.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Total, all causes	8,512	7,182	7,336	6,902	6,909	5,733	5,286	6,877	5,699	5,696	5,874	6,569	78,575
1. Typhoid fever	10	21	14	11	17	13	20	26	30	37	19	11	229
2. Typhus fever	...	...	1	...	...	...	1	...	...	...	...	...	2
3. Malarial fevers	...	...	...	...	...	...	1	3	1	4	1	...	10
4. Small pox	...	...	...	...	...	...	...	...	...	...	...	...	....
5. Measles	29	49	46	81	103	102	55	21	13	7	11	43	560
6. Scarlet fever	7	6	21	16	19	8	10	2	2	4	9	16	120
7. Whooping cough	10	21	12	20	20	27	47	93	95	46	50	48	489
8. Diphtheria and croup	107	110	128	130	108	106	73	52	59	75	99	111	1,158
9. Influenza	220	134	94	43	30	14	8	8	10	15	32	49	657
10a. Anterior poliomyelitis	9	4	3	...	6	5	7	4	7	4	3	1	53
10b. Asiatic cholera	...	...	...	...	...	...	...	...	...	...	...	...	....
11. Cholera nostras	...	...	...	...	...	...	...	...	...	...	...	...	....
12. Other epidemic diseases	33	35	51	39	33	36	15	21	14	8	12	24	321
13. Tuberculosis pulmonalis	850	781	875	823	807	690	659	649	687	644	629	731	8,825
14. Tuberculous meningitis	45	54	74	79	70	82	57	55	49	35	37	43	680
15. Other forms of tuberculosis	53	54	47	63	62	66	49	62	46	47	40	48	637
16. Cancer, malignant tumors	419	374	461	383	435	392	398	402	364	403	400	436	4,867
17. Meningitis, simple	30	28	39	43	44	31	38	23	18	25	26	28	373
17a. (of which) Cebro-spinal meningitis	15	11	23	25	22	15	15	11	10	13	10	15	185
18. Apoplexy and softening of brain	65	59	79	62	80	70	41	75	54	78	69	69	801
19. Organic heart disease	1,237	1,038	1,028	946	980	772	743	787	731	864	963	1,013	11,102
20. Acute bronchitis	125	104	87	58	70	52	17	26	31	51	65	103	789
21. Chronic bronchitis	24	17	12	14	10	10	8	5	8	6	5	16	135
22. Pneumonia (excluding broncho-pneumonia)	1,356	876	810	705	712	415	217	224	243	404	572	734	7,268
22a. Broncho-pneumonia	598	469	389	342	310	233	161	156	191	232	292	410	3,783
23. Other respiratory diseases	65	49	51	47	43	36	30	40	32	31	24	48	496
24. Diseases of stomach (cancer excepted)	45	42	53	42	47	38	36	33	25	46	40	44	491
25. Diarrhœal diseases (under 5 years)	96	125	115	147	154	148	295	1,074	661	288	128	134	3,365
26. Appendicitis and typhylitis	46	59	64	54	57	53	72	69	55	61	34	44	668
27. Hernia and intestinal obstruction	55	33	46	41	49	60	55	68	46	55	52	41	601
28. Cirrhosis of the liver	70	64	62	63	58	58	49	46	59	56	34	49	668
29. Bright's disease and acute nephritis	759	651	635	668	582	538	439	468	490	454	505	538	6,727
30. Diseases of women (not cancerous)	34	27	40	39	30	35	17	25	21	21	19	26	334
31. Puerperal septicæmia	8	24	23	29	25	14	10	16	12	11	15	16	213
32. Other puerperal diseases	43	40	44	34	51	36	37	34	32	26	32	29	438
33. Congenital debility and malformations	371	341	367	330	388	264	314	356	337	362	329	326	4,085
34. Old age	31	26	21	18	20	11	24	20	30	18	24	28	271
35. Violent deaths (suicide excepted)	339	385	387	381	371	392	443	910	334	324	353	345	4,964
a. Effects of heat	...	...	...	...	...	...	11	518	...	1	...	...	530
b. Other accidents	328	359	365	363	355	362	403	366	317	307	333	328	4,186
c. Homicides	11	26	22	18	16	30	29	26	17	16	20	17	248
36. Suicides	65	60	63	79	70	76	66	52	70	53	71	51	778
37. Other causes	1,256	1,020	1,090	1,058	1,048	849	765	968	834	893	876	913	11,570
38. Causes not known or ill-defined	2	2	4	4	...	1	9	4	8	6	4	3	47
Under 1 year	1,104	1,027	1,046	1,026	1,028	819	856	1,654	1,192	955	876	985	12,568
1 year, under 2 years	194	255	314	295	290	267	227	353	261	196	184	256	3,092
Total, under 5 years	1,512	1,468	1,578	1,567	1,590	1,298	1,310	2,244	1,663	1,330	1,230	1,475	18,265
65 years and over	2,107	1,540	1,480	1,271	1,310	1,076	874	1,196	968	1,093	1,338	1,396	15,649
70 years and over	1,515	1,057	1,032	857	920	709	594	834	656	763	933	956	10,826
Males	4,618	4,028	4,144	3,924	3,866	3,251	2,966	3,882	3,111	3,198	3,214	3,644	43,846
Females	3,894	3,154	3,192	2,978	3,043	2,482	2,320	2,995	2,588	2,498	2,660	2,925	34,729
Colored	305	269	248	247	235	203	180	242	237	247	249	213	2,875
Chinese	8	6	10	5	4	3	6	9	3	7	11	8	80
Institutions	3,469	3,043	3,261	3,143	3,049	2,705	2,392	3,162	2,623	2,517	2,422	2,540	34,326
Tenements	3,283	2,707	2,649	2,449	2,570	1,986	1,877	2,515	2,132	2,127	2,233	2,563	29,091
Dwellings	1,497	1,168	1,149	1,075	1,027	818	755	936	785	877	1,017	1,223	12,327
Hotels, etc	107	104	116	89	82	50	41	58	38	43	59	91	878
Others	156	160	161	146	181	174	221	206	121	132	143	152	1,953
Non-residents	194	172	173	158	174	153	121	121	112	125	147	138	1,788

TABLE

COMPARATIVE MORTALITY OF VARIOUS CITIES

(Data in this Table were furnished by

CITIES.	Estimated Population.	Total Deaths.	Death Rate per 1,000 Population.	Total Births.	Birth Rate per 1,000 Population.	Total Still-births.	Still-birth Rate per 1,000 Population.	Typhoid Fever—Death Rate per 100,000 Population.	Scarlet Fever—Death Rate per 100,000 Population.
New Haven, Conn.	160,000	2,600	16.25	5,295	33.10	124	.77	9	..
Columbus, Ohio	220,135	3,386	15.38	4,450	20.22	174	.79	8	3
Providence, R. I	259,000	4,008	15.47	......	.....	270	1.04	6	6
Rochester, N. Y	260,000	3,979	15.30	6,952	26.74	271	1.04	4	14
St. Paul, Minn	285,000	2,725	9.56	5,147	18.06	198	.69	2	2
Indianapolis, Ind	300,000	4,598	15.33	5,943	19.81	252	.84	9	4
Washington, D. C	362,260	6,687	18.46	7,519	19.76	424	1.17	14	2
Seattle, Wash	366,445	2,533	6.91	4,983	13.60	178	.49	5	3
Minneapolis, Minn	373,448	4,412	11.81	8,597	23.02	308	.82	7	3
New Orleans, La	†384,000	7,519	19.58	7,800	20.31	473	1.23	23	.5
Newark, N. J	405,000	6,205	15.32	11,824	29.20	453	1.18	4	.7
Milwaukee, Wis	440,000	5,102	11.60	11,204	25.45	351	.79	6	16
San Francisco, Cal	500,000	7,154	14 31	7,990	15.98	289	.59	5	2
Buffalo, N. Y	531,608	7,559	14.22	13,486	25.35	508	.95	9	6
Los Angeles, Cal	550,000	6,714	12.21	8,370	15.22	268	.49	5	1
Pittsburgh, Pa	586,196	10,657	18.17	17,500	29.83	.....	....	11	2
Baltimore, Md	594,637	11,364	19.10	14,950	25.13	1,267	2.13	15	2
Cleveland, Ohio	691,000	10,848	15.70	21,100	30.53	764	1.10	8	2
Boston, Mass	772,370	12,721	16.46	19,946	25.80	667	.86	3	6
St. Louis, Mo	820,000	11,626	14.17	14,658	17.86	794	.97	7	8
Detroit, Mich	825,000	11,758	14.25	26,270	31.84	1,289	1.56	13	17
Philadelphia, Pa	1,735,514	29,672	17.10	=42,000	24.20	.....	....	6	2
Chicago, Ill	2,547,201	38,055	14.94	49,464	19.41	2,533	.99	2	25
New York City	5,737,492	78,575	13.70	141,564	24.67	6,117	1.07	4	2

*Includes deaths from broncho-pneumonia.
†Estimated population year 1918.
‡Includes deaths from other forms of tuberculosis.
=Estimated total May, 1918.

No. 6.

OVER 100,000 POPULATION YEAR 1917.

the Local Authorities of Cities Specified.)

Diphtheria and Croup —Death Rate per 100,000 Population.	Small Pox—Death Rate per 100,000 Population.	Measles—Death Rate per 100,000 Population.	Whooping Cough—Death Rate per 100,000 Population.	Epid. Cer. Spin. Meningitis—Death Rate per 100,000 Population.	Ac. Ant. Poliomyelitis —Death Rate per 100,000 Population.	Influenza—Death Rate per 100,000 Pop.	Pulmonary Tuberculosis—Death Rate per 100,000 Population.	Other Forms Tuberculosis—Death Rate per 100,000 Population.	Cancer and Sarcoma—Death Rate per 100,000 Population.	Lobar Pneumonia—Death Rate per 100,000 Population	Broncho-pneumonia—Death Rate per 100,000 Population.	Diarrhœal Dis. under 5 Yrs.—Death Rate per 100,000 Population.	Under One Year of Age—Death Rate per 1,000 Births Reported.
15	..	16	6	11	.6	6	106	35	105	*244	..	49	.
11	..	31	2	5	.4	21	135	33	104	81	79	35	86.5
31	..	10	2	8	.8	15	136	31	105	67	119	52	....
20	..	15	7	2	.	6	99	15	112	85	75	..	84.0
14	..	4	1	10	.7	3	98	21	78	51	40	..	132.3
37	.7	5	4	5	.7	..	136	31	90	84	91	31	96.2
10	..	4	5	5	.6	..	163	..	115	*175	.	..	94.2
2	..	4	3	.	.3	6	53	23	64	30	13	..	....
18	.5	3	4	24	.5	7	116	19	125	73	43	26	72.1
8	..	15	5	.8	..	36	281	32	75	111	38	.	112.2
12	..	1	15	11	3.0	6	174	29	87	137	52	78	....
23	..	2	11	4	.7	4	84	14	75	119	61	54	98.5
14	2.0	7	6	3	.4	..	149	21	149	89	78	32	73.6
20	..	2	10	4	.2	5	131	17	86	102	70	89	103.7
7	..	3	2	3	.9	4	171	23	103	55	39	29	82.5
22	..	10	8	14	1.0	..	‡147	..	..	*366	..	..	111.0
10	..	9	6	10	..	18	204	33	108	147	99	107	119.3
22	3	8	19	11	.6	16	148	27	83	125	73	125	105.0
36	..	13	6	7	.5	7	150	22	119	142	65	57	98.5
25	.2	12	5	11	4 0	14	171	20	93	126	80	..	....
50	.1	7	18	2	.4	5	100	19	58	138	68	89	103.6
26	..	5	10	14	5	16	174	21	99	138	83	86	.
48	.7	10	9	8	7.0	8	129	20	88	*197	..	..	134 7
20	..	10	8	3	.9	11	154	23	85	127	66	59	89.0

TABLE No. 8.

DEATHS FROM ALL CAUSES ACCORDING TO NATIVITY OF DECEASED AND PARENTS OF DECEASED—1917.

Country.	Nativity of Deceased.	Nativity of Parents of Deceased.
United States	45,534	16,793
Ireland	8,241	14,445
Germany	6,549	10,031
Italy	3,959	9,087
Russia	4,599	7,286
England	1,570	1,798
Austria-Hungary	2,797	4,224
Scotland	493	665
British America	509	325
Switzerland	232	238
France	382	426
Bohemia	254	331
Roumania	315	397
Poland	251	531
Syria	43	69
Sweden	527	639
Norway	394	492
Denmark	131	137
Finland	149	193
Holland	102	120
Cuba	71	73
Other West Indies	374	588
Belgium	37	40
Spain	107	146
Greece	165	251
China	69	73
Australia	6	3
Other foreign	339	400
Unknown	376	2,229
Mixed nationalities	....	6,545
Total	78,575	78,575

TABLE No. 10.

DEATHS BY SUICIDE—1917.

	Austria-Hungary.		Bohemia.		England.		France.		Germany.		Ireland.		Italy.		Russia.		Other Foreign.		United States.		Un-known.		Total by Sexes.		Total Both Sexes.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Cuts and stabs	5	..	..	..	2	..	..	..	7	..	2	..	1	..	1	..	8	2	16	6	1	..	43	8	51
Drowning	1	2	..	..	..	..	..	..	1	..	1	..	2	2	1	1	..	1	2	4	2	..	10	10	20
Gunshot	3	..	..	..	6	..	..	..	22	..	3	2	9	2	4	1	10	..	54	13	7	..	118	18	136
Hanging	9	1	..	..	1	..	1	..	19	3	1	1	2	..	7	1	6	1	22	5	3	1	71	13	84
Leaps	4	7	..	..	..	1	..	..	7	1	1	3	3	3	13	11	10	5	22	15	7	..	67	46	113
Railroads	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	2	3	..	..	3	4	7
Arsenic	1	1	..	..	1	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	3	2	5
Bichloride of mercury	..	..	..	..	..	..	..	..	1	1	..	..	1	1	..	3	..	..	3	2	..	..	5	7	12
Carbolic acid	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	1	..	..	..	1	..	..	1	3	4
Cyanide of potassium	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	2	..	4	..	..	..	7	..	7
Opium	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	2	..	..	..	3	..	3
Oxalic acid	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	1	2
Other poisons	..	1	..	..	..	..	..	..	1	1	..	..	1	..	1	1	..	5	6	5	1	..	11	13	24
Other methods	..	..	..	..	..	..	..	..	..	..	..	..	....	..	....	..	2	..	..	..	1	..	2	..	2
Illuminating gas	16	9	..	..	4	3	2	..	41	13	7	2	12	5	20	8	29	11	65	48	9	1	208	100	308
Total by sexes	39	21	..	..	15	4	3	..	105	19	15	9	32	14	47	28	68	25	198	103	31	2	553	225	
Total both sexes	60		..		19		3		124		24		46		75		93		301		33		..		778

TABLE No. 12.

PULMONARY TUBERCULOSIS AND CANCER.

Deaths and Death Rates per 100,000 Population According to Nativities of Deceased and Parents of Deceased—Death Rates Calculated on Returns of U. S. Census, 1910.

CITY OF NEW YORK—YEAR 1917.

COUNTRY.	NATIVITY OF DECEASED.				NATIVITY OF PARENTS OF DECEASED.			
	Pulmonary Tuberculosis.		Cancer.		Pulmonary Tuberculosis.		Cancer.	
	Deaths.	Death Rate.	Deaths.	Death Rate.	Deaths.	Death Rate.	Deaths.	Death Rate
Austria-Hungary	430	161	307	115	488	122	313	78
China	23	498	....	....	23	498	1	21
Denmark	18	225	13	162	21	196	14	131
England	135	172	161	206	160	143	181	162
Finland	47	635	7	94	53	548	7	72
France	34	186	35	191	37	149	40	161
Germany	449	160	679	243	1,050	173	996	164
Greece	57	712	8	99	62	713	8	92
Ireland	905	358	594	235	2,172	386	995	177
Italy	544	160	257	75	734	138	273	51
Norway	81	364	29	130	95	301	31	98
Roumania	43	133	40	124	39	85	38	83
Russia	532	110	571	118	633	87	589	81
Scotland	58	251	51	221	81	228	59	166
Sweden	95	272	58	166	111	214	57	110
Switzerland	18	172	26	249	23	168	27	197
United States	4,999	176	1,868	65	1,773	174	766	75
Other foreign	345	595	162	279	....	....	....	....
Unknown	12	....	1	....	142	....	46	....
Other foreign and mixed foreign	....	....	....	....	585	287	251	123
Native mother or native father	....	....	....	....	543	144	175	46
Total	8,825	185	4,867	102	8,825	185	4,867	102

TABLE No. 13.

PULMONARY TUBERCULOSIS AND CANCER DEATHS, FIFTEEN YEARS AND OVER, BY SEX, AGE AND CIVIL CONDITION. FOR YEAR 1917.

Death Rate Per 100,000 of Population at Various Age Groups.

Pulmonary Tuberculosis.

Age Groups	Males.												Females.											
	Single.		Married.		Widowed.		Divorced.		Unknown.		Total.		Single.		Married.		Widowed.		Divorced.		Unknown.		Total.	
	Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.
15 to 24 years..	668	125.5	52	89.6	2	377.4	..	...	1	...	723	122.0	541	114.8	225	159.2	6	324.6	..	.....	..	...	772	125.3
25 to 44 years..	1,523	511.8	1,329	196.4	150	877.2	3	140.2	8	...	3,013	301.5	342	161.4	945	140.7	132	245.5	10	232.6	2	...	1,431	151.9
45 yrs. and over	639	1243.7	988	272.4	379	661.4	8	544.2	7	...	2,021	426.9	91	180.9	272	104.7	225	135.8	5	337.8	..	..	593	123.9
Total 15 yrs. and over...	2,830	329 9	2,369	215.6	531	706.8	11	297.3	16	...	5,757	281.9	974	131.0	1,442	134.1	363	164.2	15	202.7	2	...	2,796	136.5
Cancer.																								
15 to 24 years.	20	3.8	3	5.2	...	....	...	...	...	...	23	3.9	14	3.0	8	5.7	...	....	..	...	..	...	22	3.6
25 to 44 years..	78	26.2	205	30.3	6	35.1	...	....	...	...	289	28.9	104	49.1	378	56.3	65	120.9	..	...	..	..	547	58.1
45 yrs. and over	207	402.9	1,214	334.7	380	663.2	5	340 1	2	...	1,808	381.9	270	536.8	887	341.5	973	587.1	9	608.0	1	...	2,140	447.3
Total 15 yrs. and over...	305	35.6	1,422	129.4	386	513.4	5	135.1	2	...	2,120	103.8	388	52.2	1,273	118.4	1,038	169.8	9	121.6	1	...	2,709	132.2
All Causes—Fifteen Years and Over.																								
	9,582	1170.0	16947	1542.0	5,299	7050.0	66	1784.0	391	...	32285	1581.0	4,588	617.0	10844	1008.0	9,803	1436.0	72	973.0	47	..	25,354	1238.0

DEATHS FROM ACCIDENT AND NEGLIGENCE, 1917.

	City of New York.
Fractures and contusions	225
Falls	1,036
Street vehicles	674
Railroads	240
Wounds	45
Burns and scalds	450
Conflagration	58
Drowning	504
Poison	77
Illuminating gas	524
Other gases	79
Criminal abortion	31
Sunstroke	530
Hydrophobia	3
Tetanus	22
Electric current	18
Foreign body in larynx	16
Other violence	209
Total	4,741

TABLE No. 16.

DEATHS OF CHILDREN UNDER ONE YEAR OF AGE BY NATIVITIES OF BOTH PARENTS—DEATH RATES PER 1,000 BIRTHS REPORTED BY NATIVITIES OF BOTH PARENTS—1917.

	Births Reported by Nativities of Both Parents.	Deaths Under One Year by Nativities of Both Parents.	Death Rate 1,000 Births Reported by Nativities of Both Parents.
Austria-Hungary	10,377	746	74.6
Bohemia	246	16	65.0
England	669	27	40.3
France	85	9	105.9
Germany	1,704	170	99.8
Ireland	4,752	535	112.6
Italy	28,989	2,661	91.8
Russia-Poland	24,099	1,533	63.6
Scotland	158	13	82.3
Sweden	567	41	72.3
United States	37,555	4,165	110.9
Other foreign Mixed native and foreign Unknown	32,363	2,652	81.9
Total	141,564	12,568	88.8

TABLE No. 18.

DEATHS FROM ALL CAUSES AND DIARRHOEAL DISEASES UNDER ONE YEAR OF AGE, BY WEEKS—1917.

Week Ending	All Causes.							Diarrhoeal Diseases.						
	Under 1 Month.	1 Month and Under 2 Months.	2 Months and Under 3 Months.	3 Months and Under 6 Months.	6 Months and Under 9 Months.	9 Months and Under 12 Months.	Total Under 1 Year.	Under 1 Month.	1 Month and Under 2 Months.	2 Months and Under 3 Months.	3 Months and Under 6 Months.	6 Months and Under 9 Months.	9 Months and Under 12 Months.	Total Under 1 Year.
January 6	115	29	20	38	23	24	249	1	2	3	10	2	1	19
January 13	130	26	14	28	20	25	243	3	4	1	4	1	2	15
January 20	118	27	18	29	21	27	240	4	4	1	6	...	3	18
January 27	125	21	16	36	27	25	250	1	3	2	6	3	1	16
February 3	114	31	19	45	30	18	257	3	5	6	9	3	5	31
February 10	112	31	12	37	43	24	259	3	6	...	7	4	...	20
February 17	116	21	19	42	33	24	255	1	6	7	12	2	...	28
February 24	94	35	21	51	50	29	280	5	6	6	8	8	2	35
March 3	105	19	14	32	32	17	219	1	3	3	8	3	...	18
March 10	101	25	10	32	25	25	218	5	3	1	5	4	1	19
March 17	113	20	16	23	24	32	228	5	3	1	5	5	4	23
March 24	128	22	14	30	32	30	256	3	2	1	5	5	1	17
March 31	124	18	11	33	39	28	253	2	3	1	14	6	...	26
April 7	99	14	19	34	36	30	232	2	1	5	3	4	1	16
April 14	108	24	17	40	31	31	251	6	9	5	8	6	5	39
April 21	111	19	11	32	33	29	235	5	4	2	7	6	1	25
April 28	100	23	18	41	29	38	249	11	5	4	10	2	7	39
May 5	102	26	11	35	37	36	247	1	7	2	6	7	4	27
May 12	111	16	15	33	33	28	236	2	4	1	6	7	2	22
May 19	98	16	15	42	38	31	240	4	2	5	12	7	4	34
May 26	93	23	6	40	29	32	223	2	6	3	11	4	3	29
June 2	85	8	10	34	32	29	198	3	1	2	10	3	7	26
June 9	91	14	16	38	19	30	208	4	2	6	10	4	3	29
June 16	73	13	14	29	39	30	198	1	3	3	7	7	2	23
June 23	81	10	8	24	25	30	178	2	2	1	5	3	5	18
June 30	71	18	5	37	20	27	178	2	4	2	15	6	4	33
July 7	90	14	10	23	21	28	186	4	3	4	6	4	5	26
July 14	84	12	15	18	22	24	175	3	...	3	7	14	5	32
July 21	70	16	16	31	20	17	170	2	5	10	18	9	5	49
July 28	84	11	13	37	23	23	191	3	7	5	24	11	5	55
August 4	88	24	25	87	116	89	429	4	8	15	55	69	49	200
August 11	92	15	23	65	70	48	313	6	8	16	44	43	29	146
August 18	80	18	21	102	72	64	357	8	10	13	68	56	40	195
August 25	95	29	29	84	75	58	370	19	16	17	59	59	38	208
September 1	95	33	26	83	78	55	370	11	11	18	60	52	37	189
September 8	84	25	29	77	61	50	326	11	7	14	57	45	31	165
September 15	86	23	18	66	57	38	288	3	13	10	44	39	34	143
September 22	85	23	27	49	39	44	267	8	12	16	30	21	24	111
September 29	87	25	17	45	35	27	236	6	6	6	25	19	14	76
October 6	82	16	14	39	41	31	223	1	7	7	21	18	14	68
October 13	92	19	21	40	27	16	215	2	5	12	21	11	8	59
October 20	98	28	9	37	25	16	213	2	9	3	15	13	6	48
October 27	92	14	17	37	21	28	209	1	1	5	13	7	6	33
November 3	87	20	15	32	20	12	186	3	4	6	15	9	4	41
November 10	95	23	19	29	24	20	210	3	7	6	8	4	5	33
November 17	86	17	13	25	22	19	182	2	5	...	6	4	1	18
November 24	98	29	18	29	24	29	227	2	4	4	8	2	3	23
December 1	97	19	10	39	23	23	211	2	2	3	6	1	6	20
December 8	114	19	9	32	18	21	213	6	4	3	9	3	4	29
December 15	122	16	18	32	21	15	224	5	...	2	8	5	2	22
December 22	112	29	26	33	20	23	243	3	4	9	10	3	3	32
December 29	91	30	24	38	23	26	232	3	4	7	9	6	1	30
Total, 52 weeks	5,104	1,096	851	2,124	1,798	1,573	12,546	205	262	288	855	639	447	2,696

TABLE

DEATHS FROM ALL CAUSES

DEATH RATE PER 1,000 POPULATION

	Estimated Population 1917.						Total Deaths All Causes.		
	White.			Negro.			White.		
	Males.	Females.	Both Sexes.	Males.	Fe- males.	Both Sexes.	Males.	Fe- males.	Both Sexes.
Under 1 year.....	*71,134	*67,382	*138,516	*1,486	*1,504	*2,990	6,847	5,211	12,058
Under 5 years.....	303,500	298,700	602,200	3,910	4,180	8,090	9,749	7,784	17,533
5 to 9 years.....	261,100	259,900	521,000	2,895	3,280	6,175	905	742	1,647
10 to 14 years.....	251,000	251,500	502,500	2,690	3,160	5,850	477	448	925
15 to 19 years.....	256,600	286,600	543,200	3,200	4,360	7,560	792	704	1,496
20 to 29 years.....	591,900	614,600	1,206,500	14,475	18,910	33,385	2,931	2,397	5,328
30 to 39 years.....	485,700	452,900	938,600	13,050	13,550	26,600	4,549	2,837	7,386
40 to 49 years.....	339,200	314,300	653,500	6,500	6,860	13,360	6,049	3,566	9,615
50 to 59 years.....	188,900	182,100	371,000	2,590	3,100	5,690	6,550	4,412	10,962
60 years and over..	125,900	146,300	271,200	1,370	2,090	3,460	10,214	10,500	20,714
Total........	2,810,275	2,809,600	5,619,875	50,780	59,670	110,450	42,216	33,390	75,606

*Total births reported.

No. 20.

BY SEX, AGE AND COLOR.

ESTIMATED AT DIFFERENT AGE GROUPS.

Total Deaths All Causes.			Death Rate per 1,000 Population Estimated at Different Age Groups.						Increase in Mortality of Negroes Over White.		
Negro.			White.			Negro.					
Males.	Females.	Both Sexes.	Males.	Females.	Both Sexes.	Males.	Females.	Both Sexes.	Males.	Females.	Both Sexes.
273	232	505	96.3	77.3	87.1	183.7	154.3	168.9	87.4	77.0	81.8
383	341	724	32.1	26.1	29.1	98.0	81.6	89.5	65.9	55.5	60.4
23	35	58	3.5	2.8	3.2	7.9	10.7	9.4	4.4	7.9	6.2
24	20	44	1.9	1.8	1.8	8.9	6.3	7.5	7.0	4.5	5.7
36	40	76	3.1	2.5	2.7	11.2	9.2	10.1	8.1	6.7	7.4
182	182	364	4.9	3.9	4.4	12.6	9.6	10.8	7.7	5.7	6.4
297	216	513	9.4	6.3	7.9	22.8	15.9	19.3	13.4	9.6	11.4
259	188	447	17.8	11.3	14.7	39.8	27.4	33 5	22.0	16.1	18.8
174	124	298	34.7	24.2	29.5	67.2	40.0	52.4	32.5	15.8	22.9
166	185	351	81.1	71.8	76.4	121.2	88.5	101.5	40.1	16.7	25.1
1,544	1,331	2,875	15.0	11.9	13.5	30.4	22.3	26.0	15.4	10.4	12.5

TABLE No. 21.

DEATHS OF NON-RESIDENTS FROM CERTAIN CAUSES, 1917.

Cause of Death.	City of New York.
Typhoid fever	9
Pulmonary tuberculosis	163
Other tubercular diseases	30
Cancer	227
Alcoholism	15
Heart diseases	189
Acute respiratory diseases	206
Diarrhoeal diseases	40
Appendicitis	39
Cirrhosis of liver	7
Diseases of women	26
Congenital debility	112
Accidents	105
Suicides	50
Other causes	570
Total	1,788
Under 5 years	260
5 to 25 years	226
25 to 45 years	497
45 to 65 years	522
65 years and over	283
Total	1,788
Institutions	1,293
Hotels	98
Other places	397
Total	1,788

TABLE No. 22.

REPORT OF BUREAU OF RECORDS FOR YEAR ENDING DECEMBER 31, 1917.

	Borough of—					City of New York.
	Manhattan.	The Bronx.	Brooklyn.	Queens.	Richmond.	
Number of deaths	36,947	8,489	25,338	5,614	2,187	78,575
Death rate	13.77	14.17	12.82	14.79	21.91	13.70
*Corrected death rate	13.44	13.75	13.63	14.76	17.47	.....

*Corrected by redistributing deaths according to borough of residence.

	Estimated Population.	Certificates Received and Tabulated.				Rate per 1,000.			
		Marriages.	Births.	Deaths.	Still-births.	Marriages.	Births.	Deaths.	Still-births.
Manhattan	2,682,977	33,609	61,612	36,947	2,729	12.53	22.97	13.77	1.01
The Bronx	599,216	5,026	16,902	8,489	625	8.39	28.21	14.17	1.04
Brooklyn	1,975,801	17,066	50,468	25,338	2,233	8.64	25.55	12.82	1.13
Queens	379,696	2,725	10,050	5,614	430	7.18	26.47	14.79	1.13
Richmond	99,802	784	2,532	2,187	100	7.86	25.37	21.91	1.00
City of New York.	5,737,492	59,210	141,564	78,575	6,117	10.32	24.67	13.70	1.07

TABLE No. 24.

POPULATION, DEATHS AND DEATH RATES PER 1,000 POPULATION FROM PRINCIPAL CAUSES, DURING YEAR.

Population	5,737,492
Total deaths	78,575
Death rate	13.70
Total deaths under 5 years	18.265
Rate on general population	3.48
Rate population under 5 years	29.9
Typhoid fever	229
Rate	.04
Typhus fever	2
Rate	.0003
Malarial fever	10
Rate	.002
Smallpox	....
Rate	....
Measles	560
Rate	.10
Scarlet fever	120
Rate	.02
Diphtheria and croup	1,158
Rate	.20
Whooping cough	489
Rate	.08
Cerebrospinal meningitis	185
Rate	.03
Pulmonary tuberculosis	8,825
Rate	1.54
Other tuberculous diseases	1,317
Rate	.23
Bronchitis	789
Rate	.14
Pneumonia	11,051
Rate	1.93
Diarrhœa under 5 years	3,365
Rate on whole population	.59
Rate on population under 5 years	5.5
Cancer	4,867
Rate	.85
Bright's and nephritis	6.727
Rate	1.17
Heart disease	11,102
Rate	1.93
Puerperal diseases	651
Rate	.11
Violence	5,742
Rate	1.00
Deaths under 1 year	12,568
Rate per 1,000 births reported	89

TABLE No. 25.

DEATHS BY SEX, AGE, AND CAUSE OF DEATH FOR 1917.

	General Diseases.																					
	Typhoid Fever.		Typhus Fever.		Malarial Fever.		Measles.		Scarlet Fever.		Whooping Cough.		Diphtheria and Croup.		Influenza.		Dysentery.		Leprosy.		Erysipelas.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M	F.	M.	F.	M.	F.	M.	F.	M.	F.
Total by sexes	141	88	2	....	4	6	292	268	48	72	211	278	608	550	302	355	27	15	1	2	139	113
Under 1 year	....	....	....	....	....	....	78	70	5	....	118	122	73	60	26	24	10	2	....	....	53	63
1 year	....	....	....	....	....	....	131	124	7	13	57	93	155	119	13	18	3	....	....	....	3	3
2 years	1	2	....	....	....	....	45	38	5	11	12	31	99	87	5	7	2	2	....	....		2
3 years	1	....	....	....	....	....	13	15	9	10	14	13	83	69	2	5	1	....	....	....		....
4 years	2	....	....	....	....	....	8	9	6	11	5	12	53	44	2	1	2	....	....	....		....
T't'l under 5 y'r's	4	2	....	....	....	....	275	256	32	45	206	271	463	379	48	55	18	4	....	....	56	68
5 to 9 years	7	4	....	....	....	....	11	7	9	12	1	7	119	132	8	5	....	....	....	....	....	....
10 to 14 years	6	6	....	....	....	....	1	2	1	5	1	....	9	13	4	2	....	....	....	....	....	....
15 to 19 years	22	13	....	....	....	....	....	....	3	2	....	....	6	4	5	4	....	1	....	....	....	....
20 to 24 years	23	16	....	....	....	....	4	....	3	4	....	....	2	8	9	5	1	1	....	....	1	1
25 to 29 years	16	10	....	....	1	1	1	1	....	2	....	....	....	2	17	8	1	....	....	....	2	1
30 to 34 years	18	10	....	....	1	....	....	....	....	1	....	....	5	5	15	9	1	....	....	....	5	3
35 to 39 years	14	6	1	....	....	....	....	2	....	....	....	....	2	2	12	13	....	1	1	....	10	3
40 to 44 years	10	10	1	....	....	1	....	....	....	....	....	....	....	....	9	15	....	....	....	....	10	6
45 to 49 years	12	7	....	....	....	1	....	....	....	....	....	....	....	1	25	14	1	2	....	....	7	4
50 to 54 years	4	2	....	....	....	3	....	....	....	....	....	....	1	2	19	19	....	....	....	....	20	10
55 to 59 years	2	1	....	....	1	....	....	....	....	....	....	....	....	....	22	29	....	3	....	1	8	3
60 to 64 years	1	1	....	....	1	....	....	....	....	....	....	....	....	....	20	45	....	....	....	1	7	2
65 to 69 years	....	....	....	....	....	....	....	....	....	....	....	....	1	1	18	28	2	....	....	....	6	2
70 to 74 years	....	....	....	....	....	....	....	....	....	1	....	....	....	1	23	38	1	....	....	....	4	3
75 to 79 years	2	....	....	....	....	....	....	....	....	....	....	....	....	....	21	19	2	....	....	....	2	4
80 to 84 years	....	....	....	....	....	....	....	....	....	....	....	....	....	....	14	33	....	2	....	....	....	2
85 y'rs and over	....	....	....	....	....	....	....	....	....	....	....	....	....	....	10	14	....	1	....	....	1	1
Colored	8	1	....	....	....	1	4	6	....	1	11	17	14	6	8	13	2	1	....		1	5
Chinese	....	....	....		....	....	....	....	....	....	....	....	....	....			1				1	....
Japanese	....	....	....		....	....	....	....	....	....	....	....	....	....	....	....		....	....	....	....	....

DEATHS BY SEX, AGE, AND CAUSE OF DEATH FOR 1917—Continued.

	General Diseases—*Continued.*																					
	Other Epidemic Diseases.		Pyaemia Septicaemia.		Glanders.		Malignant Pustule.		Hydrophobia.		Tetanus, Trismus.		Mycoses.		Pellagra.		Beriberi.		Tuberculosis of Lungs.		Acute Miliary Tuberculosis.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Total, by sexes.	12	12	43	22	2	....	8	1	3	....	19	3	4	....	6	7	1	....	5,880	2,945	170	125
Under 1 year...	4	4	5	5	....	....	....	....	....	....	7	....	....	....	....	....	....	....	26	11	25	19
1 year.........	3	6	1	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	11	17	19	16
2 years........	3	1	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	7	7	4	6
3 years........	1	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	9	5	4	1
4 years........	....	....	1	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	14	5	3	3
T't'l under 5 y'rs	11	11	7	8	....	....	....	....	...	....	8	....	....	....	....	....	....	....	67	45	55	45
5 to 9 years....	1	....	1	2	....	....	....	....	....	....	1	1	....	....	....	....	....	....	23	25	5	9
10 to 14 years..	....	....	4	3	....	....	....	....	....	....	2	....	....	....	....	....	....	....	33	79	4	4
15 to 19 years..	....	....	1	3	....	....	....	....	....	....	1	....	....	....	....	....	....	....	215	306	8	13
20 to 24 years..	....	....	3	1	....	....	....	1	....	....	1	1	1	....	....	1	....	....	508	466	13	11
25 to 29 years..	....	....	1	1	....	....	2	....	1	....	....	....	....	....	....	2	1	....	642	439	20	16
30 to 34 years..	....	....	5	1	....	....	1	....	1	....	1	....	....	....	1	1	....	....	732	397	13	5
35 to 39 years..	....	....	3	....	1	....	3	....	....	....	....	1	2	....	1	2	....	....	843	323	14	11
40 to 44 years..	....	....	1	1	1	....	....	....	....	....	1	....	....	....	1	....	....	....	796	272	12	3
45 to 49 years.,	....	....	4	....	....	....	1	....	....	....	3	....	....	....	1	....	....	....	664	189	10	3
50 to 54 years..	....	1	2	....	....	....	1	....	....	....	....	....	1	....	1	....	....	....	597	147	4	1
55 to 59 years..	....	....	4	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	345	103	5	1
60 to 64 years..	....	....	3	1	....	....	....	....	....	....	....	....	....	....	1	1	....	....	209	65	4	....
65 to 69 years..	....	....	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	121	37	1	....
70 to 74 years..	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	54	30	2	3
75 to 79 years..	....	....	1	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	24	12	....	....
80 to 84 years..	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	6	7	....	....
85 y'rs and over	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	3	....	....
Colored.......	....	....	....	....	1	....	....	....	....	....	1	....	....	....	....	1	....	....	289	203	15	16
Chinese.......	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	24	....	....	....
Japanese......	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2	1	....	....

DEATHS BY SEX, AGE, AND CAUSE OF DEATH FOR 1917—Continued.

General Diseases—*Continued.*

	Tuberculous Meningitis.		Abdominal Tuberculosis.		Pott's Disease.		White Swelling.		Tuberculosis of Other Organs.		General Tuberculosis.		Rachitis.		Syphilis.		Gonococcic Infection.		Cancers, &c. of the Mouth.		Cancer of Stomach, Liver.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
T't'l by sexes...	359	321	73	61	22	26	26	15	61	34	16	8	26	20	352	176	5	29	148	16	1,014	892
Under 1 year...	65	65	7	2	1	1	1	1	3	2	....	....	21	9	91	79	1	1	1	....	....	....
1 year.........	71	72	3	4	....	2	1	....	5	....	4	....	5	9	4	3	....	....	....	1	....	....
2 years........	38	44	4	1	....	....	2	....	1	2	....	1	....	1	2	1	....	....	....	....	....	....
3 years........	29	24	4	2	1	....	1	....	1	....	....	....	....	1	1	1	....	....	....	....	1	1
4 years........	31	22	2	2	1	1	1	....	2	....	2	....	....	....	....	1	....	....	....	....	....	....
T't'l under 5 y'rs	234	227	20	11	3	4	6	1	12	4	6	1	26	20	98	85	1	1	1	1	1	1
5 to 9 years....	42	46	5	2	5	4	8	....	3	1	1	1	....	....	1	2	....	....	....	....	2	....
10 to 14 years..	14	8	2	2	1	3	3	3	4	....	1	1	....	....	2	....	....	....	....	....	1	....
15 to 19 years..	13	11	4	4	3	1	....	1	5	2	....	....	....	....	2	1	1	....	....	....	1	....
20 to 24 years..	11	6	1	8	1	4	1	....	5	5	1	2	....	....	7	4	1	5	1	....	3	1
25 to 29 years..	10	8	8	6	1	2	3	1	3	3	1	1	....	....	10	6	1	3	1	....	7	12
30 to 34 years..	10	4	9	7	....	3	....	1	5	3	1	1	....	....	18	16	....	5	1	....	15	14
35 to 39 years..	6	5	5	6	2	....	....	....	4	4	3	1	....	....	39	18	....	8	3	....	36	30
40 to 44 years..	5	....	8	4	2	1	....	2	7	4	2	....	....	....	32	10	....	3	10	1	65	60
45 to 49 years..	9	3	4	2	3	....	....	....	4	4	....	....	....	....	36	10	1	4	23	2	115	77
50 to 54 years..	2	3	3	4	....	1	2	1	3	2	....	....	....	....	41	7	....	....	21	1	164	146
55 to 59 years..	2	....	1	2	....	2	2	....	3	....	....	....	....	....	34	12	....	....	17	3	162	128
60 to 64 years..	1	....	1	1	....	....	....	....	2	2	....	....	....	....	14	4	....	....	21	3	167	134
65 to 69 years..	....	....	1	1	....	1	1	3	1	....	....	....	....	....	9	....	....	....	20	3	124	123
70 to 74 years..	....	....	1	1	1	....	....	2	....	....	....	....	....	....	4	....	....	....	16	1	92	93
75 to 79 years..	....	....	....	....	....	....	....	....	....	....	....	....	....	....	4	1	....	....	8	1	41	41
80 to 84 years..	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	4	....	14	26
85 y'rs and over	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	1	....	4	6
Colored.......	18	21	5	3	1	2	1	....	2	....	2	2	6	5	29	21	1	6	2	....	12	12
Chinese.......	1	1	....	...	....	....	....	....	....	....	....	....	....	....	2	....	....	....	....	....	....	....
Japanese......	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....

DEATHS BY SEX, AGE, AND CAUSE OF DEATH FOR 1917—Continued.

GENERAL DISEASES—*Continued.*

	Cancer of Intestines, Rectum.		Cancer of Female Genital Organs.		Cancer of Breast.		Cancer of Skin.		Cancer of Other Organs.		Other Tumors (except of Female Genital Organs.)		Acute Articular Rheumatism.		Chronic Rheumatism and Gout.		Scurvy.		Diabetes.		Exophthalmic Goitre.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F	M.	F.	M.	F.
T't'l by sexes...	326	397	....	579	4	478	60	30	592	331	11	10	124	131	24	32	5	10	473	680	6	56
Under 1 year...	....	1	....	....	....	....	....	....	1	1	....	1	1	....	....	....	1	6	....	....	1	....
1 year.........	1	....	....	....	....	....	....	....	3	1	....	....	....	2	....	....	3	2	....	....	....	....
2 years........	1	1	....	....	....	....	....	....	1	1	....	....	1	3	....	....	1	....	....	1	....	....
3 years........	....	....	....	....	....	....	....	....	....	....	....	....	6	4	....	....	....	....	4	....	....	....
4 years........	....	....	....	....	....	....	....	....	2	1	....	....	4	6	....	....	....	....	1	1	....	....
T't'l under 5 y'rs	2	2	....	....	....	....	....	....	7	4	....	1	12	15	....	..	5	8	5	2	1	....
5 to 9 years....	1	....	....	....	....	....	....	....	5	....	1	1	16	13	1	1	....	1	2	1	....	....
10 to 14 years..	....	1	....	1	....	....	....	...	4	4	....	....	19	24	2	....	....	....	6	6	....	....
15 to 19 years..	1	1	....	....	....	....	....	....	1	7	....	....	13	10	1	1	....	....	2	5	....	2
20 to 24 years..	3	3	....	2	1	1	....	....	12	7	....	....	7	11	....	....	....	....	8	11	1	11
25 to 29 years..	6	8	....	10	....	10	....	....	12	4	1	....	6	12	....	2	....	....	15	14	....	3
30 to 34 years..	11	12	....	30	....	19	2	1	20	10	....	1	8	4	1	1	....	....	5	5	1	10
35 to 39 years..	12	19	....	59	....	38	2	....	33	23	....	2	7	6	....	....	....	....	13	16	....	8
40 to 44 years..	16	27	....	61	1	64	2	2	34	33	2	1	9	8	2	3	....	....	33	31	2	4
45 to 49 years..	35	38	....	92	....	68	6	....	66	42	2	1	6	4	2	2	....	....	43	64	....	5
50 to 54 years..	55	58	.. .	86	....	59	5	2	74	26	2	....	6	2	1	2	....	1	62	81	....	6
55 to 59 years..	60	48	....	89	....	53	7	2	75	40	....	1	6	7	4	3	....	....	76	116	....	2
60 to 64 years..	36	43	....	59	....	63	14	4	78	38	....	1	3	6	3	5	....	....	69	117	....	2
65 to 69 years..	35	49	....	38	1	36	3	4	78	32	1	1	2	7	....	3	....	....	54	90	1	2
70 to 74 years..	38	41	....	31	....	33	6	8	52	34	2	....	1	1	2	5	....	....	41	69	....	....
75 to 79 years..	8	32	....	13	....	16	5	2	24	18	....	....	2	....	2	2	....	....	30	27	....	....
80 to 84 years..	4	11	....	6	1	11	4	2	8	6	....	....	....	1	3	2	....	....	6	14	....	....
85 y'rs and over	3	4	....	2	....	7	4	3	9	3	....	....	1	....	....	....	....	....	3	11	....	1
Colored.......	3	9	....	20	....	10	....	....	12	10	....	....	3	8	....	1	....	....	6	8	....	1
Chinese.......	1	....	....	....	....	....	....	....	....	....	1	....	1	....	....	....	....	....	2	....	....	....
Japanese......	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....

DEATHS BY SEX, AGE, AND CAUSE OF DEATH FOR 1917—Continued.

	General Diseases—*Continued.*																Diseases of Nervous System and Organs of Sense.					
	Addison's Disease.		Leukaemia.		Anaemia Chlorosis.		Other General Diseases.		Alcoholism Acute and Chronic.		Lead Poisoning.		Other Chronic Poisonings of Occupation.		Other Chronic Poisonings.		Encephalitis.		Simple Meningitis (of which).		Cerebro-Spinal Meningitis.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Total by sexes..	6	11	88	52	72	125	37	39	446	114	15	....	1	....	17	10	12	12	231	142	123	64
Under 1 year...	....	....	5	....	3	3	11	16	....	....	....	..	....	....	....	....	1	1	63	39	32	15
1 year..	....	....	1	2	1	2	2	1	....	....	....	....	....	....	....	....	....	....	16	15	7	6
2 years........	....	....	4	1	....	....		3	....	....	....	....	....	....	....	....	....	....	5	7	2	4
3 years	....	....	2	2	....	....	1	....	....	....	....	....	....	....	....	....	....	....	13	6	10	4
4 years... ...	....	....	1	2	....	....	2	3	....	....	....	....	....	....	....	....	....	....	8	5	7	2
T't'l under 5 y'rs	....	....	13	7	4	5	16	23	....	....	....	....	....	....	....	....	1	1	105	72	58	31
5 to 9 years....	....	..	10	2	1	2	2	2	....	....	....	....	....	....	....	...	....	3	27	22	14	13
10 to 14 years..	....	....	5	4	3	3	.	2	....	....	..	.	....	....	....	....	1	....	10	6	5	3
15 to 19 years..	....	....	2	3	....	4	1	1	....	....	....	....	....	....	1	1	2	2	23	7	14	3
20 to 24 years..	....		9	2	2	2	3	1	2	2	...	....	....	....	8	2	2	1	14	6	11	1
25 to 29 years..	....	1	4	6	3	5	1	1	28	7	....	....	1	....	3	4	2	....	11	4	6	3
30 to 34 years .	....	2	3	....	3	6	....	....	54	16	1	....	....	....	1	....	....	....	8	1	4	..
35 to 39 years..	2	1	3	6	3	5	2	....	68	23	5	....	....	....	1	2	....	1	12	4	4	....
40 to 44 years..	...	3	10	2	8	14	2	1	84	20	3	....	....	....	2	....	1	1	3	3	2	2
45 to 49 years .	....	....	9	4	5	15	2	3	76	16	2	....	....	....	1	....	2	....	7	7	3	3
50 to 54 years.	1	3	6	2	12	15	4	2	67	11	3	....	....	....	....	....	....	2	3	4	....	3
55 to 59 years	1	1	4	7	11	16	....	3	35	7	1	....	....	....	....	....	....	1	5	4	2	1
60 to 64 years	1	.	5	2	7	9	1	...	19	3	..	....	....	....	....	1	....	....	2	1	....	....
65 to 69 years	1	....	3	4	5	16	1	....	8	3	....	....	....	....	....	....	1	....	....	....	....	....
70 to 74 years		....	1	1	2	6	2	....	3	3	..	....	....	....	....	....	....	....	1	1		1
75 to 79 years.	.	....	1	....	3	2	....	....	2	2	....	....	....	....	....	....	....	....	....	....	....	....
80 to 84 years		....	...	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....
85 y'rs and over	...	..	.	...	....	...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Colored.......	....	....	...	1	....	3	2	1	8	4	1	....	1	....	....	2	....	2	13	7	4	1
Chinese.......	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Japanese ...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....

DEATHS BY SEX, AGE, AND CAUSE OF DEATH FOR 1917—Continued.

	Diseases of Nervous System and Organs of Sense—*Continued.*																					
	Locomotor Ataxia.		Other Diseases of Spinal Cord (of which).		Anterior Poliomyelitis.		Apoplexy Cerebral Hemorrhage.		Softening of Brain.		Paralysis, Unspecified.		General Paresis.		Other Forms of Insanity.		Epilepsy.		Convulsions (not Puerperal).		Convulsions of Infants.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Total, by sexes.	72	13	116	104	30	23	428	366	5	2	19	25	235	75	33	60	91	66	1	3	29	27
Under 1 year...	....	....	7	6	5	5	4	1	....	....	1	1	....	....	....	....	1	1	....	....	24	23
1 year........	....	....	7	6	6	4	....	....	....	....	....	....	....	....	....	....	....	....	....	....	4	2
2 years........	....	....	4	6	3	5	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....
3 years........	....	....	3	1	3	1	....	....	....	....	....	....	....	....	....	....	1	1	....	....	....	....
4 years........	....	....	4	1	4	....	....	....	....	....	....	....	....	....	....	....	2	1	....	....	1	2
T'tl, under 5 y'rs	....	....	25	20	21	15	4	1	....	....	1	1	....	....	....	....	5	3	....	....	29	27
5 to 9 years..	....	....	4	6	3	4	....	....	....	....	2	1	....	....	....	1	3	4	....	1	....	....
10 to 14 years..	....	....	3	2	2	2	....	....	....	....	....	....	....	....	....	....	8	....	....	....	....	....
15 to 19 years..	....	....	10	2	4	1	4	....	....	....	....	....	....	....	3	2	9	12	....	....	....	....
20 to 24 years..	....	....	5	....	....	....	4	2	....	....	1	....	1	2	8	4	13	8	....	....	....	....
25 to 29 years..	....	....	3	4	....	1	1	3	....	....	....	....	11	3	6	3	14	4	....	....	....	....
30 to 34 years..	....	....	2	1	....	....	6	2	....	....	....	1	26	7	1	6	6	8	....	....	....	....
35 to 39 years..	3	1	3	7	....	....	20	7	....	....	....	....	38	8	2	6	7	7	....	....	....	....
40 to 44 years..	5	2	7	5	....	....	22	8	1	....	....	2	42	18	1	7	5	8	....	....	....	....
45 to 49 years..	13	1	2	5	....	....	36	24	....	....	2	1	40	9	3	9	5	5	....	1	....	....
50 to 54 years..	14	2	8	7	....	....	52	35	....	....	1	2	27	10	3	7	4	2	....	1	....	....
55 to 59 years..	14	4	11	5	....	....	51	48	....	....	1	1	22	4	2	6	4	2	....	....	....	....
60 to 64 years..	11	....	11	12	....	....	57	55	....	....	....	3	15	5	2	3	4	1	....	....	....	....
65 to 69 years..	5	2	7	9	....	....	57	46	2	....	3	4	5	5	1	4	3	1	....	....	....	....
70 to 74 years..	3	....	8	6	....	....	52	57	....	1	6	7	4	1	....	2	....	1	1	....	....	....
75 to 79 years..	2	....	5	7	....	....	35	40	2	1	....	1	3	2	1	....	1	....	....	....	....	....
80 to 84 years..	2	1	2	6	....	....	22	23	....	....	1	1	....	....	....	....	....	....	....	....	....	....
85 yrs. and over	....	....	....	....	....	....	5	15	....	....	1	....	1	1	....	....	....	....	....	....	....	....
Colored.......	1	....	3	....	2	....	11	9	....	....	1	2	19	2	....	2	3	1	....	....	....	....
Chinese.......	....	....	....	....	....	....	....	....	....	....	1	1	2	....	....	....	....	....	....	....	....	....
Japanese......	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....

DEATHS BY SEX, AGE, AND CAUSE OF DEATH FOR 1917—Continued.

	Diseases of Nervous System and Organs of Sense—*Continued.*														Diseases of Circulatory System.							
	Chorea.		Hysteria.		Neuralgia and Neuritis.		Other Nervous Diseases.		Follicular Conjunctivitis.		Other Diseases of Eye and Appendages.		Diseases of Ear.		Pericarditis.		Acute Endocarditis.		Organic Heart Disease.		Angina Pectoris.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Total by sexes..	5	5	....	1	2	17	133	108	1	....	4	....	154	100	25	15	162	151	5.577	5 525	210	83
Under 1 year...	....	....	....	....	....	....	9	6	....	....	1	....	32	22	....	1	4	5	8	4	....	....
1 year.........	....	....	....	....	....	....	7	4	....	....	1	....	14	6	....	....	1	1	3	1	....	....
2 years........	....	....	....	....	....	....	3	1	....	....	....	....	7	2	....	....	5	1	6	7	....	....
3 years........	....	....	....	....	....	....	5	4	....	....	....	....	3	2	1	....	1	4	3	6	....	....
4 years........	....	1	....	....	....	....	3	4	....	....	....	....	4	3	....	2	5	....	4	8	....	....
T'tl. under 5 y'rs.	....	1	....	....	....	....	27	19	....	....	2	....	60	35	1	3	16	11	21	26	....	....
5 to 9 years..	1	1	....	....	....	....	10	10	....	....	....	....	13	11	....	....	18	15	60	69	1	....
10 to 14 years..	3	....	....	....	....	....	9	6	....	....	....	....	5	4	....	....	5	12	72	103	....	1
15 to 19 years..	....	....	....	....	....	....	6	6	....	....	....	....	12	2	3	2	13	8	83	93	....	....
20 to 24 years..	....	1	....	....	....	....	9	4	....	....	....	....	10	4	1	....	10	14	102	102	....	....
25 to 29 years..	....	....	....	....	....	2	10	4	....	....	1	....	7	5	....	3	11	17	112	143	2	....
30 to 34 years..	1	1	....	....	....	1	11	6	1	....	....	....	10	4	3	....	18	10	194	144	3	1
35 to 39 years..	....	....	....	....	....	2	9	13	....	....	....	....	6	7	2	....	12	8	243	223	7	....
40 to 44 years..	....	....	....	....	2	4	9	10	....	....	....	....	9	8	3	1	8	8	353	268	14	4
45 to 49 years..	....	....	....	1	....	2	15	15	....	....	....	....	9	2	2	1	13	11	429	370	14	5
50 to 54 years..	....	....	....	....	....	2	8	9	....	....	....	....	3	4	....	1	12	12	566	448	27	13
55 to 59 years.	....	1	....	....	....	....	4	5	....	....	....	....	3	5	....	....	10	8	638	469	26	9
60 to 64 years..	....	....	....	....	....	1	3	1	....	....	....	....	5	2	3	....	2	3	667	673	25	7
65 to 69 years..	....	....	....	....	....	1	1	....	....	....	....	....	1	2	3	....	4	6	650	627	34	13
70 to 74 years..	....	....	....	....	....	1	1	....	....	....	1	....	1	1	2	2	5	2	583	648	34	11
75 to 79 years..	....	....	....	....	....	....	....	....	....	....	....	....	....	2	1	2	1	3	439	544	14	13
80 to 84 years..	....	....	....	....	....	....	1	....	....	....	....	....	....	2	1	....	1	2	234	337	5	4
85 yrs. and over	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	3	1	128	238	4	2
Colored.......	1	....	....	....	....	1	2	1	....	....	....	....	2	5	....	1	4	1	168	179	2	....
Chinese.......	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	9	....	1	....
Japanese......	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....

DEATHS BY SEX, AGE, AND CAUSE OF DEATH FOR 1917—Continued.

	Diseases of Circulatory System—*Continued.*										Diseases of Respiratory System.											
	Diseases of Arteries, Aneurism, etc.		Embolism Thrombosis.		Diseases of Veins (Hemorrhoids, Varices, Phlebitis, etc.)		Diseases Lymphatics (Lymphangitis, etc.)		Hemorrhage.		Diseases of Nasal Fosse.		Diseases of Larynx.		Diseases of Thyroid Glands.		Acute Bronchitis.		Chronic Bronchitis.		Broncho Pneumonia.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Total by sexes..	1,439	1,464	42	28	23	22	26	23	....	3	5	2	8	8	3	23	397	392	66	69	1,959	1,824
Under 1 year...	2	....	....	....	1	....	14	16	....	....	....	....	1	1	....	....	273	241	1	1	831	689
1 year.........	....	....	....	....	....	....	2	3	....	....	1	....	2	2	....	....	51	40	5	2	340	321
2 years........	....	....	....	....	....	....	4	....	....	....	....	....	....	....	....	....	7	11	....	....	93	93
3 years........	....	....	....	....	....	....	....	....	....	1	....	....	1	....	....	....	3	2	....	....	42	28
4 years........	....	....	....	....	....	....	1	....	....	....	....	....	....	1	....	....	3	1	....	1	11	16
Tt'l, under 5 y'rs	2	....	....	....	1	....	21	19	....	1	1	....	4	4	....	....	337	295	6	4	1,317	1 147
5 to 9 years....	....	....	....	1	....	....	....	....	....	....	1	....	1	1	....	....	3	4	....	....	37	47
10 to 14 years..	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	2	....	1	....	....	11	10
15 to 19 years..	....	....	1	....	....	....	1	....	....	1	....	....	....	....	....	1	....	1	....	....	14	12
20 to 24 years..	....	3	1	....	1	....	1	2	....	....	2	....	....	....	....	1	3	....	....	....	12	8
25 to 29 years..	4	1	....	2	1	....	....	1	....	....	1	....	....	....	....	1	3	1	....	1	20	18
30 to 34 years..	10	6	1	2	1	....	....	....	....	....	....	....	....	....	....	8	....	....	1	1	23	11
35 to 39 years.	14	8	2	2	1	1	2	1	....	....	....	....	....	....	1	4	1	1	2	....	27	12
40 to 44 years..	42	30	2	....	....	5	....	....	....	....	....	1	1	1	....	2	1	1	1	1	39	22
45 to 49 years..	85	72	5	2	2	3	....	....	....	....	....	....	1	1	....	3	3	3	4	1	32	19
50 to 54 years..	131	112	5	2	4	3	....	....	....	....	....	....	....	....	2	....	2	3	5	....	51	34
55 to 59 years..	174	137	7	4	5	4	....	....	....	1	....	....	1	....	....	1	8	5	3	2	48	54
60 to 64 years..	199	158	6	4	2	1	....	....	....	....	....	1	....	....	....	....	1	7	8	7	64	74
65 to 69 years..	188	206	5	1	1	1	1	....	....	....	....	....	....	....	....	....	6	10	5	8	64	64
70 to 74 years..	214	231	3	1	....	3	....	....	....	....	....	....	....	....	....	....	2	12	10	14	82	90
75 to 79 years..	179	224	2	3	1	....	....	....	....	....	....	....	....	....	....	....	10	10	10	11	55	82
80 to 84 years..	131	142	2	3	1	....	....	....	....	....	....	....	....	1	....	....	10	17	5	12	38	63
85 yrs. and over	66	134	....	....	2	1	....	....	....	....	....	....	....	....	....	....	7	21	6	7	25	57
Colored.......	23	40	2	....	....	....	2	2	....	....	....	....	3	....	....	....	15	26	....	1	74	71
Chinese.......	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....
Japanese......	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....

DEATHS BY SEX, AGE, AND CAUSE OF DEATH FOR 1917—Continued.

	Diseases of Respiratory System—*Continued.*														Diseases of Digestive System.							
	Lobar Pneumonia.		Pleurisy		Congestion of Lungs Pulmonary Apoplexy.		Gangrene of Lung.		Asthma		Pulmonary Emphysaemia.		Other Diseases of Respiratory System.		Diseases of Teeth and Gums.		Other Diseases of Mouth.		Angina and Other Diseases of Pharynx.		Diseases of Æsophagus	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F	M.	F.	M.	F.	M.	F.	M.	F.	M	F.	M	F
Total by sexes	4,458	2,810	130	72	27	27	2	3	63	57	11	6	37	12	21	12	15	11	75	63	7	3
Under 1 year	405	278	8	5	2	3							2		2	1	5	4	13	6		
1 year	248	226	12	11										1			3		6	6		
2 years	97	85	9	4	1													1	3	2		
3 years	38	39	4	5															4	5		
4 years	39	27	2	2											1	1			3	3		
T'tl under 5 y'rs.	827	655	35	27	3	3							2	1	3	2	8	5	29	22		
5 to 9 years	57	65	1	1								1							7	12		1
10 to 14 years	35	46		1						1						1			3	1		
15 to 19 years	95	43	3	1	1									1		1			5	3		
20 to 24 years	141	65	5	1	1	1		1					3	1	1			2	5	6		
25 to 29 years	197	109	5	5	2				1				2	1	2	1			2	3		
30 to 34 years	289	117	6	7	1	1				1			4	1	1		1		7	3		
35 to 39 years	352	155	6	2	1				2	4	1		1			1			3	1		
40 to 44 years	421	156	14	3					5	3	2		5	1	2	1		1	4	2	1	
45 to 49 years	385	150	13	4	2	1		1	6	4			9		2	1	1		3	5	1	
50 to 54 years	413	182	7	3	2	1	1		11	10	2	1	2		4	1			3	1	1	1
55 to 59 years	361	204	10	7	1	1		1	8	4	1		5	3		3	1		1	1		
60 to 64 years	274	201	7	3		2	1		8	4	1		1	1	1		1	1	2		1	
65 to 69 years	249	197	10	3	2	4			7	6	2	1	1	1	3						1	1
70 to 74 years	178	166	2	2	2	3			9	4	1	2	2	1	2		3	1	1	2	1	
75 to 79 years	111	140	3		3	6			3	8	1									1	1	
80 to 84 years	39	96	3	1	3	3			2	4		1										
85 yrs. and over	34	60		1	3	1			1	4								1				
Colored	254	134	1	2		1			3	2				1					4			
Chinese	10	1							1													
Japanese	1																					

DEATHS BY SEX, AGE, AND CAUSE OF DEATH FOR 1917—Continued.

	DISEASES OF DIGESTIVE SYSTEM—*Continued.*																			
	Ulcer of the Stomach.		Other Diseases of Stomach (Cancer excepted).		Diarrhoea and Enteritis (under 2 years).		Diarrhoea and Enteritis (2 years and over).		Intestinal Parasites.		Appendicitis and Typhlitis.		Hernia, Intestinal Onstruction.		Diseases of Anus and Stercoral Fistulae.		Other Diseases of Intestines.		Acute Yellow Atrophy of Liver.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F	M.	F.
Total by sexes..	256	99	70	66	1,815	1,366	222	222	1	5	388	280	294	307	7	7	44	25	1	4
Under 1 year...	2	1	27	19	1,546	1,151	....	....	....	....	2	1	35	21	....	2	4	2	....	1
1 year.........	....	....	2	5	269	215	....	....	....	1	2	....	8	1	....	....	....	....	....	....
2 years........	....	....	1	2	....	....	60	42	....	....	6	4	2	3	....	....	1	....	....	....
3 years........	....	....	....	....	....	....	29	29	....	....	8	10	4	1	....	....	....	....	....	....
4 years........	....	....	....	....	....	....	13	11	....	....	10	7	1	1	....	....	....	....	....	....
T'tl, under 5 yrs.	2	1	30	26	1,815	1,366	102	82	....	1	28	22	50	27	....	2	5	2	....	1
5 to 9 years..	....	....	....	....	....	....	23	19	....	1	33	33	10	4	....	....	1	....	....	....
10 to 14 years..	1	....	....	....	....	....	5	4	....	....	36	17	2	4	....	....	....	....	....	....
15 to 19 years..	3	3	1	....	....	....	1	3	....	....	42	19	2	4	1	....	....	1	....	1
20 to 24 years..	13	5	3	....	....	....	5	3	....	....	33	27	6	2	....	....	1	4	....	....
25 to 29 years..	20	9	....	1	....	....	5	2	....	....	30	25	9	8	....	....	3	....	....	....
30 to 34 years..	23	7	3	1	....	....	4	5	....	1	28	22	9	7	....	....	2	2	1	1
35 to 39 years..	27	8	4	3	....	....	7	6	1	....	40	25	11	17	1	....	2	2	....	....
40 to 44 years..	41	11	6	4	....	....	5	4	....	2	26	21	23	21	2	1	2	2	....	1
45 to 49 years..	38	11	4	3	....	....	5	6	....	....	19	14	26	25	....	1	10	2	....	....
50 to 54 years..	31	7	2	3	....	....	13	9	....	....	29	15	26	44	1	1	8	3	....	....
55 to 59 years..	24	11	2	4	....	....	9	7	....	....	12	18	25	25	1	1	2	1	....	....
60 to 64 years..	14	8	3	2	....	....	8	12	....	....	11	15	28	32	....	....	4	1	....	....
65 to 69 years..	8	7	4	9	....	....	6	14	..	..	5	....	24	38	....	....	1	....	....	....
70 to 74 years..	3	5	2	4	....	....	6	10	....	....	10	4	21	15	1	....	....	1	....	....
75 to 79 years..	4	3	3	4	....	....	6	12	....	....	2	2	10	17	....	1	2	3	....	....
80 to 84 years..	3	....	3	1	....	....	8	19	....	....	3	....	7	7	....	....	....	....	....	....
85 yrs. and over	1	3	....	1	....	....	4	5	....	....	1	1	5	10	....	....	1	1	....	....
Colored.......	4	3	2	6	81	59	4	6	....	....	6	11	10	8	1	1	1	....	....	....
Chinese.......	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	1	....	...	....
Japanese......	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....

DEATHS BY SEX, AGE, AND CAUSE OF DEATH FOR 1917—Continued.

	Diseases of Digestive System—*Continued.*														Diseases of Genito Urinary System.					
	Hydatid Tumor of Liver.		Cirrhosis of Liver.		Biliary Calculi.		Other Diseases of Liver.		Diseases of Spleen.		Simple Peritonitis (Non-Puerperal).		Other Diseases of Digestive System (except Tuberculosis and Cancer).		Acute Nephritis.		Bright's Disease.		Diseases of the Kidneys and Appendages.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Total by sexes..	3	2	428	240	41	138	83	108	2	3	9	23	28	22	182	168	3,321	3,056	63	59
Under 1 year...	....	....	....	....	....	....	1	2	....	....	1	....	....	....	15	10	2	....	1	2
1 year.........	....	....	....	....	....	....	....	2	....	....	....	2	....	....	5	3	1	1	....	....
2 years........	....	....	....	....	....	....	....	....	....	....	1	....	....	....	5	2	1	2	....	....
3 years........	....	....	....	....	....	....	....	....	....	....	....	1	....	....	2	4	1	....	1	....
4 years........	....	....	....	....	....	....	....	....	....	....	1	2	....	....	8	2	1	....	....	....
T't'l.under5y'rs	....	....	....	....	....	....	1	4	....	....	3	5	....	....	35	21	6	3	2	2
5 to 9 years..	....	....	....	1	....	....	2	....	....	....	1	6	....	....	10	12	9	10	....	1
10 to 14 years..	....	....	....	2	....	....	2	....	....	....	....	....	1	....	4	10	6	7	1	....
15 to 19 years..	....	....	1	....	....	2	...	....	....	1	....	....	1	....	1	8	10	14	2	1
20 to 24 years..	....	....	1	2	....	3	4	2	....	....	....	1	1	4	12	12	28	31	1	3
25 to 29 years..	2	....	6	3	1	6	3	6	1	....	....	4	4	1	13	9	55	59	6	5
30 to 34 years..	....	....	16	8	3	7	3	5	....	....	1	2	2	....	14	9	104	80	3	3
35 to 39 years..	....	....	32	17	2	12	12	10	....	....	1	....	....	4	17	9	150	130	6	9
40 to 44 years..	....	....	50	26	3	11	8	11	....	1	....	2	5	1	13	13	245	197	4	6
45 to 49 years..	1	1	52	44	5	19	6	16	....	....	1	1	4	2	9	5	315	247	3	3
50 to 54 years..	....	....	80	36	10	27	10	10	....	....	1	....	4	5	6	10	399	318	4	6
55 to 59 years..	....	....	62	31	10	13	4	9	....	....	....	....	2	2	11	11	379	314	6	3
60 to 64 years..	....	....	51	18	2	18	10	13	....	....	1	1	2	1	9	12	422	399	9	7
65 to 69 years..	....	....	37	23	1	11	6	5	....	1	....	....	....	1	13	7	396	378	3	4
70 to 74 years..	....	....	15	8	2	7	8	9	....	....	....	....	....	....	5	5	351	332	3	3
75 to 79 years..	....	1	15	9	1	1	....	4	....	....	....	1	2	1	6	9	256	267	6	2
80 to 84 years..	....	....	4	10	....	1	3	3	....	....	....	....	....	....	4	3	136	131	3	....
85 yrs. and over	....	....	6	2	1	....	1	1	1	....	....	....	....	....	....	3	54	106	1	1
Colored.......	....	....	7	5	....	4	1	1	....	....	....	2	....	....	4	9	99	108	1	2
Chinese.......	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	8	....	....	....
Japanese......	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....

DEATHS BY SEX, AGE, AND CAUSE OF DEATH FOR 1917—Continued.

Diseases of Genito Urinary System—*Continued.*

	Calculi of Urinary Tract.		Diseases of Bladder.		Diseases of Urethra, Urinary Abscess. &c.		Diseases of the Prostate.		Non-Venereal Diseases of Male Genital Organs.		Uterine Hemorrhage (not Puerperal).		Uterine Tumor (not Cancer).		Metritis.		Other Diseases of Uterus.		Ovarian Cysts and Tumors.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Total by sexes..	44	13	40	9	27	1	184	....	12	....	....	3	....	158	....	7	....	40	....	64
Under 1 year...	....	....	....	....	....	....	....	....	9	....	....	....	....	....	....	....	....	....	....	....
1 year.........	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
2 years........	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....
3 years........	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
4 years........	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
T't'l under 5 y'rs	....	....	....	....	....	....	....	....	10	....	....	....	....	....	....	....	....	....	....	....
5 to 9 years.	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
10 to 14 years..	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
15 to 19 years..	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	1	....	1
20 to 24 years..	2	1	....	....	2	....	....	....	....	....	....	1	....	....	....	....	....	3	....	7
25 to 29 years..	4	....	1	....	....	....	....	....	....	....	....	1	....	6	....	2	....	4	....	5
30 to 34 years..	3	2	....	....	2	....	....	....	....	....	....	....	....	9	....	1	....	3	....	8
35 to 39 years..	6	....	1	2	....	....	2	....	....	....	....	....	....	31	....	2	....	9	....	5
40 to 44 years..	4	3	4	1	5	....	2	....	....	....	....	....	....	44	....	....	....	4	....	7
45 to 49 years..	5	2	....	....	5	....	5	....	2	....	....	1	....	30	....	....	....	4	....	8
50 to 54 years..	3	....	2	....	6	....	5	....	....	....	....	....	....	17	....	....	....	3	....	9
55 to 59 years..	4	1	1	....	4	....	15	....	....	....	....	....	....	10	....	....	....	3	....	5
60 to 64 years..	4	1	6	2	1	1	22	....	....	....	....	....	....	4	....	1	....	3	....	5
65 to 69 years..	3	2	5	1	....	....	33	....	....	....	....	....	....	1	....	....	....	3	....	2
70 to 74 years..	3	1	7	1	2	....	54	....	....	....	....	....	....	3	....	....	....	....	....	2
75 to 79 years..	2	....	4	....	....	....	23	....	....	....	....	....	....	2	....	....	....	....	....	....
80 to 84 years..	....	....	3	1	....	....	14	....	....	....	....	....	....	1	....	....	....	....	....	....
85 y'rs and over	....	....	5	1	....	....	9	....	....	....	....	....	....	....	....	....	....	....	....	....
Colored.......	....	....	2	....	4	....	4	....	1	....	....	....	....	20	....	....	....	....	....	3
Chinese.......	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Japanese......	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....

DEATHS BY SEX, AGE, AND CAUSE OF DEATH FOR 1917—Continued.

	Diseases of Genito Urinary System—*Cont.*				Puerperal Diseases.																	
	Salpingitis and Other Diseases of Female Genital Organs.		Diseases of Breast (not Puerperal or Cancer.)		Accidents of Pregnancy.		Puerperal Hemorrhage.		Other Accidents of Labor.		Puerperal Septicaemia.		Puerperal Albuminuria and Convulsions.		Puerperal Phlegmasia Alba Dolens.		Puerperal Embolism and Sudden Death.		Sequel of Delivery.		Puerpeal Insanity.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Total by sexes	....	62	....	2	....	77	....	80	....	74	....	213	....	169	....	4	....	26	....	1	....	1
Under 1 year	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
1 year	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
2 years	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
3 years	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
4 years	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
T't'l under 5 y'rs	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
5 to 9 years	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
10 to 14 years	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
15 to 19 years	....	1	....	....	....	2	....	1	....	2	....	12	....	10	....	....	....	1	....	....	....	....
20 to 24 years	....	11	....	....	....	15	....	12	....	9	....	50	....	39	....	1	....	4	....	1	....	....
25 to 29 years	....	11	....	....	....	19	....	15	....	24	....	55	....	50	....	....	....	6	....	....	....	1
30 to 34 years	....	18	....	....	....	23	....	23	....	17	....	57	....	39	....	1	....	8	....	....	....	....
35 to 39 years	....	12	....	....	....	13	....	19	....	15	....	28	....	21	....	2	....	5	....	....	....	....
40 to 44 years	....	5	....	1	....	5	....	9	....	6	....	11	....	9	....	....	....	2	....	....	....	....
45 to 49 years	....	4	....	....	....	....	....	1	....	....	....	....	....	1	....	....	....	....	....	....	....	....
50 to 54 years	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
55 to 59 years	....	....	....	1	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....
60 to 64 years	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
65 to 69 years	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
70 to 74 years	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
75 to 79 years	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
80 to 84 years	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
85 y'rs and over	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Colored	....	5	....	....	....	6	....	4	....	4	....	6	....	7	....	....	....	2	....	....	....	1
Chinese	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Japanese	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....

DEATHS BY SEX, AGE, AND CAUSE OF DEATH FOR 1917—Continued.

	Puerperal Diseases —*Continued.*		Diseases of Skin and Cellular Tissue.								Diseases of Locomotory System.				Malformations		Diseases of Infancy.			
	Puerperal Diseases of Breast.		Gangrene.		Carbuncle.		Phlegmon Acute Abscess.		Other Diseases of Skin and Adnexa.		Diseases of Bones (non-Tuberculous).		Arthritis. Other Diseases of Joints (except Tuberculosis and Rheumatism).		Congenital Malformations.		Congenital Debility Icterus and Sclerema.		Other Diseases Peculiar to Infancy (of which).	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Tota' by sexes..	....	6	27	16	50	23	83	32	37	28	98	38	16	5	413	285	1,913	1,474	670	457
Under 1 year ...	....	....	....	2	6	8	20	10	8	6	5	1	2	1	388	264	1,913	1.474	670	457
1 year	....	....	1	....	....	....	2	2	....	....	2	....	....	....	17	11	....	....	....	....
2 years	....	....	1	1	....	....	1	1	1	....	2	3	....	....	2	5	....	....	....	....
3 years	....	....	....	....	....	....	....	....	2	....	1	1	....	....	....	1	....	....	....	....
4 years	....	....	1	1	....	....	....	....	....	....	2	....	....	....	1	1	....	....	....	....
T't'l under 5 y'rs	....	....	3	4	6	8	23	13	11	6	12	5	2	1	408	282	1,913	1,474	670	457
5 to 9 years...	....	....	2	2	....	....	1	1	....	....	10	4	....	....	2	....	....	....	....	....
10 to 14 years..	....	....	1	....	1	....	....	3	....	....	12	4	....	....	....	1	....	....	....	....
15 to 19 years..	....	....	....	....	1	2	3	1	1	3	11	1	5	1	2	1	....	....	....	....
20 to 24 years..	....	....	....	....	1	1	....	4	1	2	9	3	....	1	....	....	....	....	....	....
25 to 29 years..	....	2	....	....	1	1	1	1	1	....	3	1	1	....	....	....	....	....	....	....
30 to 34 years..	....	3	....	....	9	....	5	3	2	....	5	6	2	....	....	1	....	....	....	....
35 to 39 years..	....	....	....	....	3	2	5	....	2	....	4	....	1	1	1	....	....	....	....	....
40 to 44 years..	....	1	....	....	3	2	7	....	2	2	5	....	1	1	....	....	....	....	....	....
45 to 49 years..	....	....	1	....	1	1	14	2	....	2	9	2	1	....	....	....	....	....	....	....
50 to 54 years..	....	....	1	1	6	....	8	1	3	3	6	3	....	....	....	....	....	....	....	....
55 to 59 years..	....	....	5	1	6	2	3	2	1	4	4	2	1	....	....	....	....	....	....	....
60 to 64 years..	....	....	2	1	3	....	5	....	5	5	4	2	....	....	....	....	....	....	....	....
65 to 69 years..	....	....	2	1	6	1	4	....	3	....	3	1	1	....	....	....	....	....	....	....
70 to 74 years..	....	....	4	1	3	2	3	....	3	1	....	....	....	....	....	....	....	....	....	....
75 to 79 years..	....	....	1	2	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....
80 to 84 years..	....	....	5	2	....	....	....	1	1	....	....	2	1	....	....	....	....	....	....	....
85 y'rs and over	....	....	....	1	....	1	....	....	1	....	1	2	....	....	....	....	....	....	....	....
Colored.......	....	....	....	1	....	1	....	2	1	1	2	2	....	....	9	4	65	52	28	22
Chinese.......	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Japanese......	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	1	1

DEATHS BY SEX, AGE, AND CAUSE OF DEATH FOR 1917—Continued.

	DISEASES OF INFANCY.				OLD AGE.		EXTERNAL CAUSES.													
	Injury During Birth.		Neglect.		Senile Debility.		Suicide by Poison.		Suicide by Asphyxia.		Suicide by Hanging or Strangulation.		Suicide by Submersion.		Suicide by Firearms.		Suicide by Cutting Instruments.		Suicide by Precipitation from Height.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Total by sexes..	302	176	1	4	82	189	31	26	208	100	71	13	10	10	118	18	43	8	67	46
Under 1 year...	302	176	1	4	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
1 year.........	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
2 years........	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
3 years........	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
4 years........	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
T't'l under 5 y'rs	302	176	1	4	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
5 to 9 years...	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
10 to 14 years..	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
15 to 19 years..	....	....	....	....	....	....	....	2	3	9	2	....	....	....	3	2	....	....	3	2
20 to 24 years..	....	....	....	....	....	....	3	5	12	16	3	1	....	....	4	1	4	1	4	8
25 to 29 years..	....	....	....	....	....	....	5	6	18	11	7	3	1	2	12	1	5	1	7	7
30 to 34 years..	....	....	....	....	....	....	8	4	21	10	6	1	3	1	16	1	7	2	13	6
35 to 39 years..	....	....	....	....	....	....	4	2	20	5	7	....	1	2	8	1	3	1	3	8
40 to 44 years..	....	....	....	....	....	....	5	4	22	8	4	1	1	1	12	4	5	1	7	5
45 to 49 years..	....	....	....	....	....	....	2	1	18	8	5	1	1	1	20	2	7	1	9	6
50 to 54 years..	....	....	....	....	....	....	....	1	26	12	8	1	1	1	12	3	2	1	7	1
55 to 59 years..	....	....	....	....	1	4	3	....	17	6	9	2	1	1	11	2	5	....	6	1
60 to 64 years..	....	....	....	....	....	2	....	....	13	7	6	2	....	1	11	1	1	....	4	....
65 to 69 years..	....	....	....	....	3	9	....	1	19	2	8	1	....	....	3	....	....	....	2	1
70 to 74 years..	....	....	....	....	7	15	1	....	14	3	4	....	1	....	4	....	2	....	2	1
75 to 79 years..	....	....	....	....	14	40	....	....	4	3	2	....	....	....	....	....	1	....	....	....
80 to 84 years..	....	....	....	....	28	46	....	....	1	....	....	....	....	....	2	....	1	....	....	....
85 y'rs and over	....	....	....	....	29	73	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Colored.......	6	2	....	....	1	1	1	....	....	....	....	....	1	....	1	....	1	1	2	2
Chinese.......	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....
Japanese......	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....

DEATHS BY SEX, AGE, AND CAUSE OF DEATH FOR 1917—Continued.

	EXTERNAL CAUSES—*Continued.*																			
	Suicide by Crushing.		Suicide by Other Methods.		Poisoning by Food.		Bites of Venomous Animals.		Other Acute Poisonings.		Conflagrations.		Burns and Scalds.		Absorption of Deleterious Gases.		Accidental Submersion.		Pistol and Gunshot Wound.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Total by sexes..	3	4	2	....	9	8	1	1	38	20	30	28	187	263	413	190	466	38	19	1
Under 1 year..	....	....	....	....	1	....	....	....	....	1	2	....	14	7	18	18	1	1	....	....
1 year..........	....	....	....	....	....	....	....	....	3	3	....	....	29	27	1	....	....	3	....	....
2 years........	....	....	....	....	....	....	....	....	2	....	2	1	25	17	....	1	1	1	....	....
3 years........	....	....	....	....	....	....	....	....	1	....	....	1	28	21	3	....	2	....	....	....
4 years........	....	....	....	....	....	1	....	....	....	....	1	2	19	24	1	1	3	....	....	....
T'tl under 5 y'rs	....	....	....	....	1	1	....	....	6	4	5	4	115	96	23	20	7	5	....	....
5 to 9 years...	....	....	....	....	....	1	....	....	3	1	1	4	20	43	3	....	34	1	2	....
10 to 14 years..	....	....	....	....	....	1	....	....	....	....	1	2	2	9	5	4	26	4	1	....
15 to 19 years..	....	....	....	....	1	1	1	....	1	....	....	....	1	3	6	5	35	....	3	....
20 to 24 years..	....	1	....	....	....	....	....	....	7	2	....	2	2	13	22	9	47	3	4	....
25 to 29 years..	1	....	1	....	1	....	....	....	6	2	1	1	6	8	31	17	38	1	1	1
30 to 34 years..	....	2	....	....	....	2	....	....	6	5	5	1	6	4	28	13	49	3	3	....
35 to 39 years..	....	....	....	....	....	1	....	....	3	....	....	1	1	11	42	11	48	5	....	....
40 to 44 years..	....	....	1	....	2	....	....	....	1	1	1	1	5	13	31	12	51	5	....	....
45 to 49 years..	....	....	....	....	1	....	....	....	2	....	4	1	4	12	56	13	51	3	3	....
50 to 54 years..	....	1	....	....	....	....	....	1	2	1	4	5	4	12	40	17	28	3	....	....
55 to 59 years..	2	....	....	....	2	....	....	....	1	....	3	1	5	9	32	12	18	2	1	....
60 to 64 years..	....	....	....	....	1	....	....	....	....	1	1	4	5	8	31	14	21	....	....	....
65 to 69 years..	....	....	....	....	....	....	....	....	....	2	2	....	3	11	19	9	9	....	....	....
70 to 74 years..	....	....	....	....	....	1	....	....	....	1	1	1	3	4	17	13	3	2	....	....
75 to 79 years..	....	....	....	....	....	....	....	....	....	....	1	....	3	4	13	7	1	....	1	....
80 to 84 years..	....	....	....	....	....	....	....	....	....	....	....	....	2	3	6	10	....	1	....	....
85 y'rs and over	....	....	....	....	....	....	....	....	....	....	....	....	....	....	8	4	....	....	....	....
Colored.......	....	....	....	....	1	....	....	....	4	....	3	1	2	12	12	8	12	....	1	....
Chinese.......	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....
Japanese......	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....

DEATHS BY SEX, AGE, AND CAUSE OF DEATH FOR 1917—Continued.

	External Causes—*Continued.*																			
	Cuts and Stabs.		Deaths by Falls.		Deaths in Mines and Quarries.		Deaths by Machinery.		Deaths by Other Crushing Agencies, Wagons, etc.		Deaths by Animals not Snakebites, Hydrophobia or Stings.		Hunger and Thirst.		Excessive Cold.		Sunstroke.		Lightning.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Total by sexes	17	8	741	295	3	....	82	9	842	204	18	....	2	3	8	....	369	161	2	....
Under 1 year	....	1	10	6	....	....	....	....	....	1	....	....	....	....	1	....	31	29	....	....
1 year	....	....	22	9	....	....	....	....	1	4	....	....	....	....	....	....	8	10	....	....
2 years	....	1	14	7	....	....	....	1	4	8	....	....	....	....	....	....	1	2	....	....
3 years	....	....	22	10	....	....	....	....	18	9	....	....	....	....	....	....	....	1	....	....
4 years	....	....	10	11	....	....	....	....	24	10	1	....	....	....	....	....	....	....	....	....
T't'l, under 5 yrs.	....	2	78	43	....	....	....	1	47	32	1	....	....	....	1	....	40	42	....	....
5 to 9 years	2	1	42	20	....	....	1	....	163	48	1	....	....	....	....	....	2	1	....	....
10 to 14 years	1	....	18	6	....	....	2	....	63	11	2	....	....	....	....	....	....	1	....	....
15 to 19 years	....	....	24	3	....	....	8	1	24	7	....	....	....	....	1	....	1	....	....	....
20 to 24 years	1	1	28	8	....	....	12	3	49	10	....	....	....	....	....	....	3	....	....	....
25 to 29 years	1	....	40	8	2	....	11	1	54	6	1	....	....	....	....	....	13	1	....	....
30 to 34 years	1	1	59	6	....	....	6	....	52	3	1	....	....	....	....	....	33	2	2	....
35 to 39 years	2	....	63	14	....	....	6	....	71	6	2	....	....	2	....	....	41	3	....	....
40 to 44 years	4	....	74	12	....	....	12	....	58	8	....	....	1	....	2	....	45	6	....	....
45 to 49 years	1	1	78	17	....	....	7	....	58	10	1	....	....	....	1	....	52	5	....	....
50 to 54 years	1	....	63	22	1	....	9	....	72	12	5	....	....	....	....	....	50	12	....	....
55 to 59 years	1	....	54	21	....	....	4	1	39	8	2	....	1	....	2	....	35	6	....	....
60 to 64 years	2	....	50	19	....	....	3	....	29	20	2	....	....	....	....	....	21	19	....	....
65 to 69 years	....	1	26	22	....	....	1	2	19	9	....	....	....	1	1	....	11	15	....	....
70 to 74 years	....	....	21	24	....	....	....	....	19	5	....	....	....	....	....	....	13	19	....	....
75 to 79 years	....	....	9	18	....	....	....	....	13	3	....	....	....	....	....	....	5	15	....	....
80 to 84 years	....	....	8	19	....	....	....	....	10	4	....	....	....	....	....	....	2	4	....	....
85 yrs. and over	....	1	6	13	....	....	....	....	2	2	....	....	....	....	....	....	2	10	....	....
Colored	1	....	25	5	....	....	7	2	18	5	....	....	....	....	....	....	5	4	....	....
Chinese	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Japanese	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....

DEATHS BY SEX, AGE, AND CAUSE OF DEATH FOR 1917—Continued.

	EXTERNAL CAUSES—*Continued.*																			
	Other Electrical Accidents.		Homicides by Firearms.		Homicides by Cutting or Piercing Instruments.		Homicides by Other Methods.		Dislocation and Fractures.		Criminal Abortion.		Foreign Body in Larynx.		Explosions.		Other External Violences.		ILL DEFINED CAUSES.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Total by sexes..	17	1	108	17	36	4	60	23	76	17	....	31	11	5	29	....	40	13	23	24
Under 1 year...	....	....	....	....	1	1	20	11	....	....	....	....	3	....	....	....	4	6	....	1
1 year.........	....	....	1	....	....	....	....	1	....	....	....	....	2	2	....	....	....	....	12	14
2 years........	....	....	....	....	....	....	1	1	....	....	....	....	1	....	1	....	....	....	2	1
3 years........	....	....	....	....	....	....	1	....	1	2	....	....	....	2	....	....	....	....	3	....
4 years........	....	....	1	....	....	....	....	....	....	1	....	....	....	....	....	....	....	1	....	....
T't'l, under 5 yrs.	....	....	2	....	1	1	22	13	1	3	....	....	6	4	1	....	4	7	17	16
5 to 9 years..	2	....	3	....	....	....	1	1	1	....	....	....	1	1	....	....	1	1	....	....
10 to 14 years..	1	....	2	1	1	....	....	....	1	....	....	....	....	....	....	....	3	2	2	1
15 to 19 years..	2	....	11	2	2	1	3	1	....	....	....	4	....	....	2	....	2	1	1	1
20 to 24 years..	2	....	17	2	7	....	1	2	3	....	....	4	....	....	4	....	2	....	1	....
25 to 29 years..	3	1	19	2	2	....	4	....	8	....	....	5	....	....	7	....	2	1	....	....
30 to 34 years..	....	....	22	2	7	1	11	2	6	1	....	9	....	....	5	....	5	....	....	1
35 to 39 years..	1	....	14	2	5	....	5	1	4	1	....	7	1	....	5	....	1	....	1	2
40 to 44 years..	4	....	5	3	5	....	4	....	14	1	....	2	1	....	....	....	4	1	1	1
45 to 49 years..	1	....	3	2	2	....	4	1	10	2	....	....	....	....	1	....	5	....	....	1
50 to 54 years..	....	....	5	1	3	....	2	....	8	1	....	....	....	....	2	....	5	....	....	....
55 to 59 years..	....	....	3	....	1	....	2	....	4	....	....	....	....	....	1	....	1	....	....	1
60 to 64 years..	....	....	1	....	....	....	....	1	6	1	....	....	1	....	1	....	3	....	....	....
65 to 69 years..	1	....	....	....	....	....	1	1	6	....	....	....	....	....	....	....	....	....	....	....
70 to 74 years..	....	....	....	....	....	....	....	....	2	3	....	....	1	....	....	....	2	....	....	....
75 to 79 years..	....	....	1	....	....	1	....	....	2	2	....	....	....	....	....	....	....	....	....	....
80 to 84 years..	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....
85 yrs. and over	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....
Colored.......	1	....	8	2	6	....	1	1	1	....	....	....	1	....	5	....	3	....	2	2
Chinese.......	....	....	1	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....
Japanese......	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....

DEATHS BY SEX, AGE, AND CAUSE OF DEATH FOR 1917—Continued.

SUMMARY.

	General Diseases.		Tuberculous Diseases.		Cancer.		Diseases of the Nervous System and Organs of Sense.		Diseases of Circulatory System.		Diseases of Respiratory System.		Diseases of Digestive System.		Diseases of Genito Urinary System.		Puerperal Diseases.		Diseases of the Skin and Cellular Tissue.		Diseases of Locomotory System.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Total by sexes..	12,332	9,545	6,607	3,535	2,144	2,723	1,571	1,126	7,504	7,314	7,166	5,305	3,810	3,006	3,873	3,642	....	651	197	99	114	43
Under 1 year...	644	568	128	101	2	2	143	100	29	26	1,523	1,218	1,638	1,211	27	12	....	....	34	26	7	2
1 year.........	507	511	114	111	4	2	49	33	6	5	659	603	290	232	6	4	....	....	3	2	2	....
2 years........	238	255	56	61	2	2	20	16	15	8	207	193	74	54	7	4	....	....	3	2	2	3
3 years........	188	154	49	32	1	1	25	14	5	11	88	74	45	46	4	4	....	....	2	....	1	1
4 years........	146	124	56	33	2	1	22	17	10	10	55	48	29	25	9	2	....	....	1	1	2	....
T't'l,under5yrs	1,723	1,612	403	338	11	8	259	180	65	60	2,532	2,136	2,076	1,568	53	26	....	....	43	31	14	6
5 to 9 years..	295	283	92	88	8	....	60	60	79	85	100	119	77	77	20	23	....	....	3	3	10	4
10 to 14 years..	132	176	62	100	5	6	39	18	77	117	46	61	50	29	12	17	....	....	2	3	12	4
15 to 19 years..	312	401	248	338	3	8	69	33	101	104	113	59	57	38	13	27	....	28	5	6	16	2
20 to 24 years..	657	606	541	502	20	14	67	32	116	121	167	78	73	61	45	69	....	131	2	7	9	4
25 to 29 years..	830	612	688	476	26	44	66	32	130	167	231	136	88	69	79	102	....	172	3	2	4	1
30 to 34 years..	968	603	770	421	49	86	72	38	230	163	324	147	104	71	126	133	....	171	16	3	7	6
35 to 39 years..	1,156	644	877	350	86	169	100	63	283	243	394	178	143	106	182	209	....	103	10	2	5	1
40 to 44 years..	1,183	667	832	286	128	248	107	76	422	316	489	191	178	123	277	281	....	43	12	4	6	1
45 to 49 years..	1,178	677	694	201	245	319	134	82	550	464	455	187	178	151	344	304	....	2	16	5	10	2
50 to 54 years..	1,184	706	611	159	319	378	123	87	745	591	498	234	223	163	425	363	....	....	18	5	6	3
55 to 59 years..	888	684	358	108	321	363	117	86	860	632	446	282	155	126	420	378	....	1	15	9	5	2
60 to 64 years..	688	613	217	68	316	344	110	84	904	846	365	303	139	122	473	435	....	....	15	6	4	2
65 to 69 years..	500	484	125	42	261	285	86	74	886	854	346	294	96	110	453	398	....	....	15	2	4	1
70 to 74 years..	349	405	58	36	204	241	78	78	841	898	288	294	75	66	425	347	....	....	13	4	....	....
75 to 79 years..	186	192	24	12	86	123	49	53	637	789	196	257	46	60	297	280	....	....	2	2	....	....
80 to 84 years..	64	124	6	7	35	62	28	33	375	488	100	198	31	41	160	139	....	....	6	3	1	2
85 yrs. and over	39	56	1	3	21	25	7	17	203	376	76	151	21	25	69	111	....	....	1	2	1	2
Colored.......	469	424	333	247	29	61	57	32	201	223	350	238	121	106	115	47	....	30	1	5	2	2
Chinese.......	34	1	25	1	1	....	3	1	12	....	12	1	2	....	8	1	....	....	....	....	....	....
Japanese......	3	2	2	2	1	....	....	....	2	....	1	....	1	....	....	....	....	....	....	....	....	....

DEATHS BY SEX, AGE, AND CAUSE OF DEATH FOR 1917—Continued.

Summary—*Continued.*

	Malformations.		Diseases of Infancy.		Diseases of Old Age.		External Causes.		Suicides.		Homicides.		Accidents.		Ill Defined Causes.		Total. Males.	Total Females.	Total Both Sexes.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
Total by sexes..	413	285	2,584	1,935	82	189	4,177	1,565	553	225	204	44	3,420	1,296	23	24	....	....	....
Under 1 year...	388	264	2,584	1,935	....	....	106	82	....	....	21	12	85	70	....	1	7,123	5,445	12,568
1 year.........	17	11	....	....	....	....	67	59	....	....	1	1	66	58	12	14	1,618	1,474	3,092
2 years........	2	5	....	....	....	....	52	40	....	....	1	1	51	39	2	1	622	581	1,203
3 years........	....	1	....	....	....	....	76	46	....	....	1	....	75	46	3	....	437	351	788
4 years........	1	1	....	....	....	....	60	51	....	....	1	....	59	51	....	....	335	279	614
T't'l, under 5 yrs.	408	282	2,584	1,935	....	....	361	278	....	....	25	14	336	264	17	16	10,135	8,130	18,265
5 to 9 years..	2	....	....	....	....	....	283	123	....	....	4	1	279	122	....	....	929	777	1,706
10 to 14 years..	....	1	....	....	....	....	129	41	....	....	3	1	126	40	2	1	501	468	969
15 to 19 years..	2	1	....	....	....	....	139	44	11	15	16	4	112	25	1	1	828	744	1,572
20 to 24 years..	....	....	....	....	....	....	241	92	30	33	25	4	186	55	1	....	1,378	1,201	2,579
25 to 29 years..	....	....	....	....	....	....	308	86	57	31	25	2	226	53	....	....	1,739	1,379	3,118
30 to 34 years..	....	1	....	....	....	....	381	82	74	27	40	5	267	50	....	1	2,228	1,419	3,647
35 to 39 years..	1	....	....	....	....	....	361	84	46	19	24	3	291	62	1	2	2,636	1,635	4,271
40 to 44 years..	....	....	....	....	....	....	381	89	57	24	14	3	310	62	1	1	3,056	1,792	4,848
45 to 49 years..	....	....	....	....	....	....	407	87	62	20	9	3	336	64	....	1	3,272	1,962	5,234
50 to 54 years..	....	....	....	....	....	....	360	108	56	21	10	1	294	86	....	....	3,582	2,260	5,842
55 to 59 years..	....	....	....	....	1	4	266	72	54	12	6	....	206	60	....	1	3,173	2,277	5,450
60 to 64 years..	....	....	....	....	....	2	213	98	35	11	1	1	177	86	....	....	2,911	2,511	5,422
65 to 69 years..	....	....	....	....	3	9	131	78	32	5	1	1	98	72	....	....	2,520	2,304	4,824
70 to 74 years..	....	....	....	....	7	15	110	77	28	4	....	....	82	73	....	....	2,186	2,184	4,370
75 to 79 years..	....	....	....	....	14	40	56	53	7	3	1	1	48	49	....	....	1,483	1,726	3,209
80 to 84 years..	....	....	....	....	28	46	32	42	4	....	....	....	28	42	....	....	825	1,116	1,941
85 yrs. and over	....	....	....	....	29	73	18	31	....	....	....	....	18	31	....	....	464	844	1,308
Colored.......	9	4	93	74	1	1	123	43	6	3	19	7	98	33	2	2	1,544	1,331	2,875
Chinese.......	....	....	1	....	....	....	4	....	1	....	2	....	1	....	....	....	76	4	80
Japanese......	....	1	1	1	....	....	2	....	1	....	....	....	1	....	....	....	10	4	14

TOTAL DEATHS BY AGE GROUPS, 1917.

	MANHATTAN.		THE BRONX.		BROOKLYN.		QUEENS.		RICHMOND.		CITY OF NEW YORK	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
Total by sexes	20,521	15,533	4,550	3,688	14,693	12,240	3,034	2,569	1,048	699	43,846	34,729
Under 1 year	3,208	2,581	793	549	2,433	1,853	553	367	136	95	7,123	5,445
1 year	761	774	160	119	573	466	106	92	18	23	1,618	1,474
2 years	277	295	69	65	213	173	51	40	12	8	622	581
3 years	204	164	45	39	148	116	31	28	9	4	437	351
4 years	139	130	38	26	125	97	22	21	11	5	335	279
Total, under 5 years	4,589	3,944	1,105	798	3,492	2,705	763	548	186	135	10,135	8,130
5 to 9 years	414	360	95	85	336	248	68	75	16	9	929	777
10 to 14 years	212	178	72	54	172	183	35	39	10	14	501	468
15 to 19 years	335	345	107	84	308	249	64	44	14	22	828	744
20 to 24 years	605	480	147	160	477	441	102	93	47	27	1,378	1,201
25 to 29 years	836	644	167	153	601	450	103	109	32	23	1,739	1,379
30 to 34 years	1,134	637	225	157	686	488	135	115	48	22	2,228	1,419
35 to 39 years	1,380	812	245	165	799	518	157	114	55	26	2,636	1,635
40 to 44 years	1,556	839	277	178	957	633	201	109	65	33	3,056	1,792
45 to 49 years	1,657	879	306	211	1,034	685	207	151	68	36	3,272	1,962
50 to 54 years	1,767	1,009	374	268	1,146	793	229	154	66	36	3,582	2,260
55 to 59 years	1,564	997	320	251	1,023	819	195	168	71	42	3,173	2,277
60 to 64 years	1,341	1,103	323	284	962	890	209	188	76	46	2,911	2,511
65 to 69 years	1,106	992	264	232	878	844	186	183	86	53	2,520	2,304
70 to 74 years	934	901	231	222	784	839	165	166	72	56	2,186	2,184
75 to 79 years	600	635	148	201	548	681	118	151	69	58	1,483	1,726
80 to 84 years	307	432	98	105	317	461	59	83	44	35	825	1,116
85 years and over	184	346	46	80	173	313	38	79	23	26	464	841
Colored	1,045	864	46	36	371	367	67	45	15	19	1,544	1,331
Chinese	68	3	....	....	8	....	....	1	....	....	76	1
Japanese	8	3	....	....	2	....	....	1	....	....	10	4

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